

*Sidney F. Pitts
Conoco Chemicals
Westlake, La. 70669*

EMERGENCY HANDLING OF HAZARDOUS MATERIALS IN SURFACE TRANSPORTATION

**Edited by
Patrick J. Student**

MCD 000016910

**Bureau of Explosives
Association of American Railroads
1920 L Street, N.W.
Washington, D. C. 20036**

EMERGENCY HANDLING OF HAZARDOUS MATERIALS IN SURFACE TRANSPORTATION

Edited by Patrick J. Student

Bureau of Explosives
Association of American Railroads
1920 L Street, N.W.
Washington, D.C. 20036

BUREAU OF EXPLOSIVES
NEW 24-hour EMERGENCY PHONE
202-835-9500

Copyright Bureau of Explosives 1981
Thomas A. Phemister, Director

MCD 000016911

NOTICE TO USERS

The material in this book was prepared by the Bureau of Explosives staff in 1981 from sources and from experience deemed reliable and accurate. As with all information prepared for emergency response, especially emergency response involving hazardous materials, the printed word cannot substitute for the informed judgment of those responsible on the scene. Only they can accurately assess the scope of damage to equipment, hazardous lading lost and the potential for further harm in the immediate post-accident environment. It is vital to understand that each occurrence is different and each must be handled as the unique situation which it represents.

Accordingly, while the Bureau of Explosives stands ready to offer the considerable help and expertise at its disposal, no claim can be made that the information in this book, or the advice rendered on scene by Bureau personnel, will always insure the complete safety of persons or property involved in an emergency arising out of the transportation of hazardous materials. With 75 years of experience in this business, the Bureau of Explosives would be suspicious of any person or organization making such a claim.

Actions recommended or discussed in this book are aimed at handling an immediate emergency situation and may not detail all the potential hazards of the materials involved. This is especially true where several materials may have become mixed because of multiple leaks or container ruptures. Expert advice and assistance should be obtained and followed as quickly as possible. An excellent source of first response advice is

CHEMTREC (800) 424-9300

(in the District of Columbia, call 483-7616).

(in Alaska, Hawaii and Canada, call (202) 483-7616)

The CHEMTREC communicators can often put those on scene at an emergency in touch with the shipper of the product(s).

Thomas A. Phemister
Director, Bureau of Explosives
Washington, D.C.
September 30, 1981

BASIC ORGANIZATION OF THIS BOOK

Emergency Handling of Hazardous Materials in Surface Transportation is divided into two primary sections.

The first section presents general information about hazardous materials incidents; it deals with general recommendations first and then with each DOT hazard class. Hazard class information is arranged in the order in which, historically, commodities of that class have been involved in accidents. Thus, flammable gases are discussed well before explosives because there have been more accidents involving them.

The first section also defines or explains the various terms used in the specific commodity information. For instance, if the reader is advised to "wear self contained breathing apparatus" or to "use water in flooding quantities as fog," these terms are explained toward the end of the first section under the heading "An explanation of terms used for emergency responders."

The second section gives commodity specific emergency response information for each hazardous material regulated by the U.S. Department of Transportation and listed in Title 49 of the Code of Federal Regulations. For Environmental Protection Agency designated Hazardous Substances, this section also gives commodity specific emergency environmental damage mitigation information.

At the back of this book are two cross reference indices. One shows the DOT-required 4-digit number and the product(s) and page(s) to which that number applies. For many commonly shipped materials, one DOT 4-digit number may apply to numerous commodities. The other cross reference index shows the 7-digit Standard Transportation Commodity Code number (the STCC number), the particular commodity to which that number applies and the page number on which information about that commodity appears. As additional information, the STCC cross reference index is preceded by an explanation of the 49-series format.

MCD 000016912

EMERGENCY HANDLING OF HAZARDOUS MATERIALS IN SURFACE TRANSPORTATION

INTRODUCTION

When accidents or fires occur in connection with the transportation of hazardous materials, the first priority is the prevention of fatalities and injuries to people. The prevention of unnecessary damage to property and of injury to livestock, wildlife and the environment is the second priority.

To handle an incident in the safest manner, it is absolutely necessary to know the properties of the materials and of the shipping containers involved. Actual methods and procedures used may vary depending on local conditions.

The material in this book should be reviewed before an incident occurs; and should, ideally, be part of training and pre-planning exercises.

RECOMMENDATIONS FOR RESPONSE (GENERAL RULES)

It is entirely possible that the scene of an accident involving hazardous materials will represent such a high degree of hazard that the only safe course is to protect the perimeter and evacuate those who may become exposed to the dangers of violent ruptures of containers or of toxic fumes. These severe hazards may exist with or without the presence of fire, smoke or fumes.

If an accident involving hazardous materials happens, IMMEDIATELY:

1. Notify local emergency response authorities and, if possible, the transportation carrier.
2. Make an initial survey of the scene, determining:
 - * the location of threatened or potentially threatened people,
 - * the presence of fire, smoke or fumes,
 - * the presence of hazardous materials,
 - * the overall condition of the vehicles and containers,
 - * wind direction and approximate speed; and
 - * the condition of the terrain, including presence of water sources and supplies.
3. Rescue the injured, if possible. Wear the maximum degree of protective equipment practicable. Plan an escape route before entering the immediate area. Do not expose personnel unnecessarily to smoke and fumes.
4. Identify the specific products, cars, trailers or containers involved. Identify also the "hazard class" of all products involved. The train crew (or truck driver) will have shipping papers containing this information. In a rail yard or truck terminal, the papers are usually in the yard office or dispatcher's office. Placards applied to vehicles and/or labels on packages may help identify the presence or absence of hazardous materials, but the shipping papers are the best source of on-scene identification information. If the shipping papers and/or placards or labels are destroyed, the number on the rail car or motor vehicle can often be used to secure the name of the commodity being carried. Rail car numbers (or reporting marks) are a series of letters followed by a series of numbers, as in the following example: ABCX 12345. Many tank trucks use a similar numbering pattern. With this number, the carrier, or, in some cases, CHEMTREC (telephone number below) will be able to determine the contents of the vehicle.

Using the second section of this book, identify and learn the dangerous characteristics of the hazardous materials involved and the generally applicable emergency response in-

formation. (If the only available commodity information is the 4-digit number on a vehicle placard or a Standard Transportation Commodity Code (STCC) number on a shipping or movement document, cross reference indices at the back of this book will help locate emergency response information. Placards on vehicles and labels on packages may also contain a single number at the bottom "point." This is a "hazard class" number assigned by the Intergovernmental Maritime Consultative Organization (IMCO). A list of IMCO numbers and their general class assignments appears with the cross reference indices at the back of this book.) Use this information to plan evacuations, mitigation activities, personnel safety and ultimate clean up.

5. Do not release any product(s) from containers or attempt to ignite or detonate either the products or the containers without expert advice and assistance.
6. If it is necessary to drag rail cars or other transport vehicles as a part of accident clearing operations, it should only be done with the expert advice and assistance of persons trained in and familiar with such techniques.
7. An accident in a tunnel involving a release of hazardous materials creates a greater risk than one in an open area, because the vapors are not readily dissipated and because a fire may exhaust the air otherwise available for breathing. Damage to the tunnel structure, caused by the accident or during its aftermath, may also cause the tunnel to cave in.

Conditions will vary greatly depending upon the drainage and ventilation of the tunnel, its length, the location of the accident and the response equipment available. In any event, close attention must be given to the risk of suffocation, and to the fire and explosion hazard in the tunnel.

Self contained breathing apparatus should be used, because gas masks are equipped only with a filtering device and are not designed for service in areas with insufficient oxygen.

Approach the wreckage from the windward end if possible. At least two persons should enter an area where vapors are concentrated, so that if one is overcome the other will be able to bring him/her out.

Monitoring devices to detect explosive mixtures, toxic fumes and oxygen deficiency should be used as part of the initial survey of a tunnel accident. Continual (or frequent) monitoring for the presence of these dangerous conditions is also essential.

8. The shipper(s) should be contacted for additional information on the product(s) involved. Additional emergency response assistance is available from:

CHEMTREC (800) 424-9300

In the District of Columbia, call 483-7616.

In Alaska, Hawaii and Canada call (202) 483-7616.

Puerto Rico and the Virgin Islands can use the "800" number.

In many cases, the CHEMTREC communicator will be able to establish direct contact with the shipper(s) of the product(s) involved.

The BUREAU OF EXPLOSIVES (202) 293-4048 (especially for hazardous materials involving railroads). An up-to-date, free list of Bureau of Explosives' inspectors and their locations throughout the United States and Canada may be obtained by writing:

The Bureau of Explosives

Association of American Railroads

1920 L Street, N.W.

Washington, D.C. 20036

TABLE OF CONTENTS

NOTICE TO USERS.....	2-A
BASIC ORGANIZATION OF THIS BOOK.....	2-A
TABLE OF CONTENTS.....	3-A
INTRODUCTION.....	4-A
RECOMMENDATIONS FOR RESPONSE (GENERAL RULES).....	4-A
RECOMMENDATIONS FOR RESPONSE (KEYED TO DOT HAZARD CLASSES).....	5-A
FLAMMABLE GASES.....	5-A
ASSESSMENT OF TANK DAMAGE.....	6-A
FLAMMABLE LIQUIDS.....	6-A
NONFLAMMABLE GASES.....	7-A
CORROSIVE MATERIALS.....	8-A
POISON B MATERIALS.....	8-A
FLAMMABLE SOLIDS.....	9-A
OXIDIZERS.....	9-A
ORGANIC PEROXIDES.....	10-A
POISON GASES.....	10-A
RADIOACTIVE MATERIALS.....	10-A
EXPLOSIVES.....	12-A
BLASTING AGENTS.....	12-A
IRRITATING MATERIALS.....	13-A
ETIOLOGIC AGENTS.....	13-A
OTHER REGULATED MATERIALS (ORMs).....	13-A
AN EXPLANATION OF TERMS USED FOR EMERGENCY RESPONDERS.....	14-A
INTERGOVERNMENTAL MARITIME CONSULTIVE ORGANIZATION (IMCO)	
HAZARD CLASS NUMBERS AND DESIGNATIONS.....	16-A
COMMODITY SPECIFIC EMERGENCY RESPONSE AND	
ENVIRONMENTAL CONTAINMENT INFORMATION.....	1
CROSS REFERENCE INDICES	
DOT IDENTIFICATION NUMBER/COMMODITY(IES)/PAGE(S).....	545
DESCRIPTION OF STCC ORGANIZATION.....	566
STANDARD TRANSPORTATION COMMODITY CODE (STCC)/COMMODITY/PAGE.....	567
AFTERWORD AND ACKNOWLEDGEMENTS.....	589

MCD 000016914

If you have the following information when you call, help will be able to reach you much faster:

1. Your name, location and telephone number
 2. Location of the incident
 3. Carrier involved
 4. Vehicle reporting marks (Car or truck numbers)
 5. Placard/label applied
 6. Name of commodity and shipper
 7. Accessibility
 8. Weather conditions
 9. Local population information
 10. Topographical features
 11. Availability of water
9. Be aware that there are legal requirements to report hazardous materials accidents to many agencies including the U.S. Department of Transportation—EPA/Coast Guard National Response Center.

* All carriers must make immediate report to the DOT/ National Response Center at (800) 424-8802 (in the District of Columbia, call 426-2675) of any incident in which hazardous materials are responsible for death, serious injuries, property damage in excess of \$50,000, or continuing danger to life and property.

* All releases of hazardous material (and releases of radioactive materials or their involvement with fire) must be reported on Form F5800.1 to the DOT within 15 days of discovery. Releases of radioactive material are also subject to Nuclear Regulatory Commission and Department of Energy reporting requirements. The telephone numbers (and regional offices of the DOE) are given in the section on radioactive materials which appears later in this portion of the book.

* Rail carriers, in addition, should report all serious incidents to the Bureau of Explosives, Phone (202) 293-4048. The Bureau should receive a copy of all F5800.1 reports submitted to the DOT by rail carriers.

RECOMMENDATIONS FOR RESPONSE (KEYED TO DOT HAZARD CLASSES)

FLAMMABLE GASES

GENERAL Flammable gases are often ignited immediately following a breach of their container. If not, the vapors can and often do flow until an ignition source—such as a highway flare or a hot exhaust manifold—is reached. When this happens, the entire cloud can catch fire almost at once. A gas leak that has ignited should not be extinguished unless the leakage can be stopped. Attempts to shut off the supply should be made only under streams of water to keep the metal cool. Let the gas burn if the valves cannot be closed. Tanks in intense fires, or exposed to flame impingement, especially if it is "torch-like," may rupture violently, producing a large fireball (up to 1800 feet across) and may hurl even large fragments nearly half a mile.

Additional information about these materials will be found in the detailed commodity section which follows. This information should be consulted when assessing the danger of an accident situation involving these materials.

IF ON FIRE If a flammable gas car is burning at the safety valve, manway cover, product valves or at a hole in the tank and the flames are not impinging on another car, there is relatively little risk of violent rupture of that tank from such a fire. Under such conditions, allowing the car to burn itself out has proven a safe course, even though the flames may burn for an extended time—perhaps several days. Allowing the nonburning vapors to spread may cause a sudden, violent, flash fire as noted earlier. Cars which are punctured and have burned out often have enough vapor left in them to create an explosive mixture in the tank. The tank must be purged when the fire goes out. One way to accomplish this is to flood the tank with water.

VAPORS Flammable gas shipped in single unit tank cars is shipped as a liquified gas. This is important to know because these liquified gases will vaporize under normal conditions and produce 200 to 600 volumes of vapor for each volume of liquid. The flammability range, a factor which varies for each material, is also an important factor. Some of these gas vapors are flammable in mixtures as lean as 2%; in other words, vapor diluted by 50 volumes of air to 1 volume of vapor could be flammable.

Flammable vapors released from an opening in a tank car cannot be confined and will ignite upon contact with any spark, flame or other sufficient heat source and will burn with great rapidity, violence, and intensity back to the opening from which the vapor originated. After the flash of fire, the gas will burn above the surface of the liquid or at the point of discharge. If liquid or vapor is released from a tank car, all sources of ignition must be kept away from it or any area where the vapor concentration is at or above the Lower Explosive Limit (LEL). Explosimeters or other detectors are available to check for dangerous concentrations. If tank cars are breached or ruptured in a derailment, all people and power equipment should be kept at least 2500 feet away until the boundary of the LEL is known. Continual monitoring of the LEL boundary is required until the discharge is stopped and the vapors are known to have dispersed.

Take these steps to avoid setting the vapors on fire:

1. Extinguish all fires, smoking materials and remove all other possible ignition sources from the vicinity. When lights are necessary, use only spark proof electric flashlights. Keep internal combustion engines well away from the vapor cloud. Do not allow trains to pass on adjoining tracks, or vehicular traffic to pass on adjacent roads as long as the LEL detectors show readings at or above the lower explosive limit. Use an LEL detector to determine the boundary of the lower explosive limits of a flammable vapor cloud.
2. Post guards and keep all spectators at least 2500 feet away.
3. Dig holes and trenches, or build earthen dikes in the path of the flowing liquid to reduce the liquid's surface area from which vapors can be given off. The vapor of flammable gas is usually heavier than air and tends to form a layer on the ground. These vapors will flow following the slope of the ground, and will settle in low places and places sheltered from the wind. Vapors will not drift or flow against the wind but may travel a considerable distance with wind. Dispersion of vapors will depend on the wind speed and direction. Vapor dispersion may be aided by using streams of water to break up the vapor at the point of leakage from the car. Water fog will tend to disperse vapors in still air.
4. Do not permit flammable gas to drain into sewers since vapor arising from it may ignite at some point far distant from the leak. Do not permit liquid to drain into water sources. Contaminated water may cause environmental harm.
5. Locate all leaks and stop them if possible.

6. Wrecking operations or transfer of contents of tank cars of flammable gas should not be attempted until all vapors in that vicinity are dispersed. Cutting torches must not be used on tank car tanks, either loaded or empty unless purged.
7. If leaks are expected during the handling of wrecked cars or other vehicles, transfer their contents to another car or container. Transfer of flammable gases should only be performed by trained personnel who are experienced in the necessary techniques.

ASSESSMENT OF TANK DAMAGE Tank cars and other bulk containers involved in accidents may suffer severe damage without an immediate loss of their lading. This damage may look impressive, even awesome, and yet the car or other container may still have sufficient reserve strength to permit it to be carefully removed from the accident site, with its contents, for later transfer or unloading.

The most treacherous damage that can occur to tanks and other containers is that caused by bending, denting, scoring or gouging without resultant leaks. Time, pressure and handling can result in a delayed rupture. If this happens, almost always there will be enough heat caused by the tearing of the metal to ignite the contents of the tank and cause the same kind of fireball described earlier.

It must be noted that flammable gases are usually shipped in tank cars with external jackets. "Tank" damage refers to injuries suffered by the tank itself and not by the outer jacket. The presence of an outer jacket may be detected by observing the car to see if the ripped or torn outer covering reveals insulating material; and, beneath that, another layer of metal. Resolve all doubts in the direction of safety and never attempt to cut or "jack" away the outer skin to search for an inner tank.

The assessment of tank damage is not a casual matter and requires the presence of trained experts. The guidelines presented here are only intended to allow those first on the scene to make an initial appraisal for purposes of ordering a retreat until expert appraisal advice is available. The Bureau of Explosives, tank car builders and some major shippers of hazardous materials can assist in evaluating damage to tank cars and other bulk containers involved in accidents.

Each dent, score or gouge must be examined. As adjacent cars or surrounding materials are removed, or as the tank itself is moved, the newly exposed surfaces must be examined as well.

Dents in combination with scores, gouges or cracks and dents which cross a weld seam are the most dangerous and the tighter or smaller the radius or curve of the dent, the more dangerous it is. Dents in the cylindrical section of the tank, parallel to the long axis, are usually considered to be more dangerous than large dents in the head, but even large head dents are dangerous if they appear in conjunction with a gouge, score or crack. Small head dents (not exceeding 12" in diameter), especially with tightly bent edges, should be considered marginal and may justify unloading in place, usually by transferring the material to another tank car or other container at the accident scene.

Any crack in the base metal of a tank, especially if in combination with a dent, score or gouge, justifies unloading the tank before it is moved (except as may be necessary to get the valves upright or at least accessible).

Scores or gouges are especially dangerous if they are longitudinal and approach 1/16 inch in depth. (The steel in some cars, and their pressure ratings in relation to the vapor pressure of the product they contain, may allow scores of greater than 1/16 inch without a fatal loss of residual strength, but these distinctions are not important from the point of view of initial emergency response decisions.)

To repeat, the assessment of tank damage is a skill that requires training and the evaluation of not just the damage to the tank itself, but also such factors as outside air temperature, the product in the tank and its vapor pressure and the internal pressure in the tank. In a questionable situation, the best course is to withdraw half a mile, send for expert help and keep the tank cool.

"Keeping the tank cool" does not always mean flooding it with hose streams. In a non-fire situation, a spray or fog may be able to envelop the whole car and keep a film of water on it, allowing both evaporative cooling and cooling by conduction. The cooling effect of water applied to an insulated tank is questionable. However, a tear in the jacket or the destruction of insulation by fire or physical causes may make an insulated tank operatively non-insulated in an emergency situation.

When a fire, especially a "torching" fire, impinges on another tank, a heavy hose steam directed at the point of flame contact may prevent a dangerous heat and pressure build up in the non punctured tank. A "torching" fire occurs when a tank has been punctured and the flammable gas is burning out of the hole in a strongly projecting flame. With this kind of fire, unmanned monitor nozzles provide greater protection for firefighters than hand lines.

Another situation where flooding with water may be inappropriate occurs when the water temperature is higher than the temperature of the product in the tank. This is often the case during the winter months.

It must be remembered that a water attack is almost never the first thing that emergency responders should attempt. The General Rules stated earlier, especially those relating to making an initial survey and obtaining specific product identification and information, should be followed prior to laying, charging and using hose lines.

FLAMMABLE LIQUIDS

GENERAL Flammable liquids have a flash point below 100° F (37.8°C). The flash point of a liquid is the temperature at which that liquid will give off enough vapor for ignition to occur. While the term "flash point" is often misunderstood, it is an important concept to understand because it is the vapor which burns, not the liquid.

The possibility of ignition is greatest for liquids having low flash points. The lower the flash point, the greater the probability that either the temperature of the liquid or the temperature of the surrounding air will be higher than the flash point of the liquid. The higher these temperatures, the greater the amount of vapor formed and, thus, the greater the hazard. Quite frequently, when leakage occurs in the course of a derailment, ignition is caused instantly by friction sparks.

If the vehicle(s) involved in the accident are carrying packages of flammable liquids (in other words, if they are not tank cars or tank trucks), one should assume that the packages are broken and that leakage which could cause a fire has occurred. The presence of vapors will generally be indicated by odors characteristic of the chemical. If it is safe to do so, any vehicle containing packages of flammable liquids should be open for ventilation. The vehicle or packages marked with flammable liquid labels should be carefully removed to a safe place, away from ignition sources. When the leakage is continuous, ventilation will probably not remove the danger. In this case, removal of ignition sources is imperative for the safety of responders.

Flammable liquids spilled from broken packages should be well covered with chemically compatible dry absorbent material, including earth, sand or special sorbents.

Flammable liquids with a low boiling point, such as ethylene oxide, carbon bisulfide and diethyl ether, may develop sufficient pressure inside a tank that the criteria for **ASSESSMENT OF TANK DAMAGE**, discussed earlier under flammable gases, will also be of use in evaluating an accident in which they are involved.

Additional information about these materials will be found in the detailed commodity section which follows. This information should be consulted when assessing the danger of an accident situation involving these materials.

IF ON FIRE In addition to the general emergency response recommendations given earlier, there are other actions or

considerations which may reduce the hazard and aid in containing and extinguishing the fire:

1. Pull away any other cars or vehicles that are movable and not burning.
2. Dig holes or build earthen dikes in the path of the burning liquid vapors to limit and contain the fire area and protect other cars or adjacent property.

3. Smother fires around the car or other vehicle. Sand, dirt, foam and carbon dioxide are good agents. Water from a fog nozzle may smother the fire, but water is likely to float the liquid and may act to spread the fire.

When vapors are burning at the safety valves, do not extinguish the flame unless re-ignition can be prevented. Putting out a fire at a safety valve may allow leakage from the valve to spread and ignite, causing a sudden violent flash fire. It is safer to let the vapor burn at the valves or point of leakage. The fire may be controlled to protect the surrounding area (both other transportation vehicles and surrounding property).

Generally it is a good idea not to extinguish the fire at its source until all spilled material has either been burned or its re-ignition can be prevented.

4. Watch all tanks in the fire for evidence of bulging or the appearance of red-hot spots in the metal. Both are indications that the strength of the steel is being reduced by the heat to a point where it may not be able to hold the pressure in the tank maintained by the safety valves. If these signs are observed, keep all persons away from the tanks; if the metal fails, a stream of burning liquid or vapor may be projected many feet.
5. If sufficient water is available, use it as a fog to cool tanks affected by the heat of the fire. Remember that the run-off from the fog streams may spread the burning liquid.
6. As a general recommendation, do not puncture or rupture the shell of a transport vehicle involved in a fire because any opening made in a tank will liberate more flammable liquid and extend the fire. (There are circumstances in which it may be determined that a deliberate "holing" of the tank is necessary to reduce the time of the exposure or to permit other mitigating actions to take place more quickly. This determination, and its implementation, should only be made by experts. The Bureau of Explosives, tank builders and some major shippers of hazardous materials can assist in these decisions.)
7. The safety valves on tank cars are designed to limit the internal pressure to much less than the bursting pressure of the tank. In order to work, they must not be left open, broken off or buried. If the safety valves are obstructed, try to move the tank car in a position to let the valves function properly.

IF NOT ON FIRE When fire does not occur immediately in a wreck, the hazard of a leak of flammable liquid is generally considered to be greater than when fire is immediately present. The vapors of a flammable liquid will spread over a greater area (and often more rapidly) than the liquid. While the liquid will flow down hill, the vapors travel down wind and may engulf slight high spots that were "safe" only moments before. Vapors cannot be confined and will ignite upon contact with any spark or flame. Vapors will burn with great rapidity, violence, and intense heat back to the liquid surface from which they originated. After such a flash of fire, the vapor will burn above the surface of the liquid.

When the material is not on fire:

1. Extinguish all sources of ignition in the vicinity. When lights are necessary, use only spark proof electric flashlights. Keep internal combustion engines out of the vapor cloud. Use an explosimeter or other detector to determine the boundary of the lower explosive limits (LEL) of a flammable vapor cloud. Keep people and power equipment at least 2500 feet away until the boundary of the LEL is known. Continual monitoring

of the LEL boundary is necessary until the discharge is stopped and the vapors are known to have dispersed.

2. Post guards and keep all spectators over 2500 feet away.
3. Dig holes or trenches or build earthen dikes in the path of flowing liquid to contain the leak. This limits the amount of surface area from which vapors can come.
4. Cover the liquid with sand, dirt, or any other available material which will blanket the surface and reduce the rate of evaporation. The vapor of gasoline and most other flammable liquids is heavier than air and forms a layer along the ground which mixes with the air. This mixing action is increased by wind. These vapors flow along the ground and settle in low places sheltered from the wind. They will not drift or flow against the wind but may travel a considerable distance with it.
5. Vapors can be dispersed by spraying with a water fog. The run off should be checked for flammable concentrations of the liquid. Do not permit the liquid to drain into sewers because vapors arising from the liquid may ignite at some point far distant from the leak and cause serious property damage or personnel injury. The contaminated water may cause environmental harm if allowed to mix with surface or ground water.
6. Attempt to close tank valves and stop all leaks if possible. Wooden plugs are helpful and may be carried in the railroad's wreck train or as part of the equipment of a wreck clearing contractor.
7. Wrecking operations as well as the transfer of the contents of the vehicle should not be attempted until all vapors are dispersed.
8. Cutting torches must not be used on empty or loaded cars as long as detectors show readings above the LEL. When cutting torches are deemed safe to use, avoid contact with either products which have leaked or with ground saturated with such leakage. These materials can be ignited and will burn as do flammable liquids.
9. Many liquids that are regarded as safe under ordinary conditions and transported as combustible or non-regulated materials should be treated as dangerous when handling a wreck. An empty or partially empty tank car, with or without placards, should be regarded as containing a vapor-air mixture which may ignite.
10. Fumes in any empty tank car can injure a person. An empty tank should not be entered without personnel protective equipment adequate for its internal atmosphere until it has been thoroughly cleaned and checked for residual vapors.
11. Move the least damaged cars to safety and avoid sudden shocks or jars that might produce sparks or friction. Do not move a damaged tank car that is leaking flammable liquid. If a tank car with only a small leak *must* be moved a short distance, it may be possible to attach a bucket under the leak to prevent the spread of the flammable liquid.
12. Do not allow trains to pass on adjoining tracks, or vehicular traffic to pass on adjoining roads, as long as the explosimeter shows reading at or above the lower explosive limit.

NONFLAMMABLE GASES

GENERAL Taken as a group, nonflammable gases are materials which do not (readily) burn and which have, in a container, either an absolute pressure exceeding 40 pounds per square inch (psi) at 70°F. or, regardless of the pressure at 70°F., an absolute pressure exceeding 104 psi at 130°F.

The most common nonflammable gases in transportation are anhydrous ammonia and chlorine. Both of these commodities can be deadly. Whenever possible, the shipper should be called

upon to assist in handling accidents in which these commodities are involved.

The transfer of the contents of a car of non-flammable gas should only be done by persons familiar with the risks involved and trained in the proper procedures and precautions.

The criteria discussed in ASSESSMENT OF TANK DAMAGE which appeared above, in the section on flammable gases, are also applicable to most of the tanks used to transport non-flammable gases.

Additional information about these materials will be found in the detailed commodity section which follows. This information should be consulted when assessing the danger of an accident situation involving these materials.

IF FIRE IS PRESENT If the wreckage is on fire, the heat of the fire will tend to vaporize any leakage and may carry the fumes skyward. If the car or container is not leaking, every effort should be made to extinguish the fire or to move the car or container away from the fire.

The tanks of single-unit tank cars authorized for the transportation of nonflammable gases may or may not be insulated. They are equipped with safety valves which are designed to prevent the build up of excess internal pressure.

Gas cylinders, with few exceptions, are provided with safety devices to prevent rupture in case they are exposed to fire. All unauthorized persons should be kept at least 1500 feet away in case the cylinder bursts due to flame or heat impingement. An explosion could throw pieces of the cylinder several hundred yards.

IF FIRE IS NOT PRESENT If there is a leakage of liquid from any container of nonflammable gas, avoid contact with the liquid because it is likely to cause destruction of the skin tissues by freezing. Water spray should be used to knock down the vapors, but the run-off from the spray may have to be collected and/or neutralized to prevent further danger to persons, property and the environment.

Because of the poisonous and irritating nature of most of these gases, all persons in the vicinity of a leak should be kept upwind. All persons in the path of irritating or poisonous fumes should be moved to a safe location. The leaking car or container should, if possible, be moved to a point where the escaping vapor will be carried by the wind away from occupied buildings or locations.

It is difficult to stop compressed gas leaks, except where the gas escapes through an open valve. A leaking cylinder containing ammonia, chlorine, or sulfur dioxide should be moved to an isolated place. Cylinders of compressed gases that are not leaking should be removed from the wreck. Avoid breaking any valves or striking the cylinders.

CORROSIVE MATERIALS

GENERAL Corrosive materials are liquids or solids that cause visible destruction or irreversible alterations in human skin tissue, or, in the case of a leakage from its packaging, a liquid that has a severe corrosion rate on steel.

If corrosive materials come in contact with the body, water should be applied immediately and in large enough quantities to wash the material away. A general rule is to liberally wash the affected area for at least 15 minutes. If this action is taken quickly enough, it is possible to prevent or greatly reduce injury.

Avoid breathing the vapors of corrosive materials. They can cause severe respiratory distress, the onset of which may be delayed by hours or even days.

If the contents of a car of corrosive materials must be transferred, persons familiar with the dangers and techniques should perform the task. A good supply of water should be kept at hand in case of splashes or spills.

Additional information about specific corrosive materials will be found in the detailed commodity section which follows. This information should be consulted when assessing the danger of an incident involving these materials.

IF FIRE IS PRESENT The heat of a fire can accelerate the corrosive action of some of these materials. Some, but not all, corrosive materials are combustible or burnable. Specific fire response recommendations will be found in the detailed commodity section which follows.

IF FIRE IS NOT PRESENT If the leak is small, a bucket can be used to prevent the leak from spreading. The bucket will have to be of a material not attacked by the corrosive involved. Larger spills will require the digging of holes or the building of earthen or sand dikes. Saturated soil may have to be neutralized or otherwise disposed of to prevent long term environmental harm. Factors to consider in the decision for containment are the soil characteristics and the location of water. If the soil is porous or near watersheds or water sources, additional measures—such as lining the containment area and on site soil neutralization—may be necessary.

POISON B MATERIALS

GENERAL These materials are liquids and solids (including pastes and semisolids), other than Class A Poisons or materials classed as "irritating," which are toxic to humans through ingestion (eating), inhalation or absorption. The vapors of some Class B poisons can be dangerous or offensive but to a lesser degree than the gases or liquids requiring the "Poison Gas" label or placard. Some of these poisons are flammable and expert advice from the shipper should be obtained if at all possible.

If poisons come in contact with the body, immediately wash affected areas with water or soap and water. If they can be washed off quickly enough, injury may be prevented. Any person affected by the vapors should be removed from the area and placed on his/her back with head and back elevated. Call a physician immediately and tell the doctor the name of the poison involved. If clothing is saturated with poison, remove it to prevent further poisoning. Keep patient warm and quiet. If breathing has apparently ceased, start resuscitation immediately but remember that mouth-to-mouth artificial respiration may expose the rescuer to fumes inhaled by the victim.

Personnel should be evacuated from the area known or suspected to be contaminated by the materials or their vapors. Whenever possible, monitoring equipment should be used to aid in determining and evaluating the contaminated area.

Protective clothing should be worn by personnel dealing with the incident, and should be decontaminated after exposure.

Vehicles which contained any poisonous materials must be thoroughly cleaned after unloading or before going back into service.

Additional information about these materials will be found in the detailed commodity section which follows. This information should be consulted when assessing the danger of an accident situation involving these materials.

IF FIRE IS PRESENT Fires may be fought using conventional means, but all personnel in the area should have protective gear appropriate for the material(s) involved. Because the run-off may be contaminated, precautions should be taken to contain and reduce the area affected by the run-off. The methods usually available, such as digging holes or building earthen dikes, are often effective. However, any countermeasure should be evaluated to reduce not only the short term problem but also to reduce the potential post-accident cleanup costs and long term environmental degradation.

IF FIRE IS NOT PRESENT If any container of these materials is leaking, no person should be allowed to enter the contaminated area without appropriate breathing apparatus and other protective equipment suitable for the material. If qualified persons are available, attempts to plug the leak or reduce the amount of leakage by use of wooden plugs may be made.

Smaller containers, such as drums, can often be prevented from leaking by positioning the container so that the leak is above

the level of the product. With tank cars or tank trucks, this may be possible if heavy equipment and operators trained in the necessary techniques are available. Rolling tank cars or trucks is a specialized "art" and not every operator of heavy equipment has the necessary skill. The Bureau of Explosives can assist in evaluating the procedures to be used. Every precaution must be taken to keep leaking liquid from contacting the skin. At least two persons should work together. The second person should be available to help the first in case of an emergency.

Digging holes or building earthen dikes to prevent any leakage from spreading is usually effective, but the effects of this action on post-accident cleanup and long-term environmental problems should be considered. Decontamination procedures will depend on the material involved. The agencies listed in the general recommendations section, earlier, may be able to provide help.

If it is necessary to transfer the contents of any containers of these materials, persons skilled in those operations should perform the task. The shipper, nearest manufacturer or the Bureau of Explosives may be able to provide the necessary assistance. When handling or transferring these materials, appropriate protective equipment must be utilized.

FLAMMABLE SOLIDS

GENERAL There are only two major materials classed as flammable solids which are shipped in tank cars: phosphorus and sodium.

Phosphorus will ignite with air at or above 86°F. It is explosive when mixed with oxidizing materials. Phosphorus tank cars in a derailment are likely to have a ruptured disc. Cars with a ruptured disc should be filled with water and the disc should be replaced.

Phosphorus on the outside of the car should be scraped off (after it stops burning) and disposed of in an appropriate facility. Scraping may expose unburned phosphorus which will burn if not kept under water. Protective clothing is required because phosphorus burns are very painful. Inhaling small amounts of phosphorus can be fatal.

A leaking phosphorus car will burn until it crusts over. This fire should be fought with dirt or sand (preferably wet) and the phosphorus should be contained as near the car as possible. Once the fire is out, the car can be moved under water fog to clear the right of way.

A dike should be built to prevent further fires. Spilled phosphorus can be temporarily buried under a mud cap until wrecking operations are completed. The residue from burned phosphorus is phosphorus pentoxide, a corrosive material which will dissolve in water to form phosphoric acid, another corrosive material. Final disposal of the car and the remaining product and residues will have to be coordinated with an appropriate environmental protection agency (usually Federal and/or state) and with the shipper or consignee.

Sodium is a water reactive flammable solid. **DO NOT USE WATER ON SODIUM.** If a sodium car leaks, use dry soda ash, dry earth, salt, lime, powdered limestone, or any dry inert substance. **DO NOT USE WATER, CARBON DIOXIDE, CARBON TETRACHLORIDE, FOAM, OR ANY OTHER LIQUID FIRE EXTINGUISHING AGENTS INCLUDING FREONS,** because they will either cause a fire or will react violently with sodium. Burning sodium releases sodium oxide fumes which will react with water to produce sodium hydroxide (caustic soda) which is injurious to eyes, skin, and mucous membranes.

Other commonly shipped flammable solids include "strike anywhere" matches and charcoal. Naturally, they are not shipped in tank cars, although under certain conditions the DOT regulations permit charcoal to be shipped in bulk.

Fire in shipments of "strike anywhere" matches is frequently caused by the ignition of the match heads in one or more of the inner cartons. If the outer box is not broken or opened, the fire is

generally confined to these cartons, and after the head composition of the matches is consumed, the fire goes out. If the outside box is not broken, and the smoke dies away after a few minutes, no further action is necessary, because the fire has already been extinguished from a lack of air, and nothing will be gained by opening the box. If the fire has gained some headway, the burning box or boxes should be removed, if possible, or water should be freely used. Boxes should not be broken open any more than necessary because this will only add more fuel and may add to the fire.

When charcoal is on fire during transit, water should not be used if it is practicable to locate and remove the material on fire. This is because wet charcoal is much more liable to ignite spontaneously, and the fire cannot be stopped permanently except by the use of copious amounts of water.

Fires in ground charcoal or in charcoal screenings are best handled by removing the burning packages. If this is not practical, water should be used sparingly to extinguish the visible fire, then remove all the charcoal and separate the wet from the dry material. The wet charcoal must be destroyed. The dry charcoal should be stored under cover in a dry place, and held under observation for at least five days before further shipment, in order to reduce the chance of another ignition.

Additional information about these materials will be found in the detailed commodity section which follows. This information should be consulted when assessing the danger of an accident situation involving these materials.

OXIDIZERS

GENERAL A few oxidizers are shipped in tank cars and most of them will cause fire in contact with combustible materials. Nitric acid, mixed acid, perchloric acid, or hydrogen peroxide are examples of oxidizers shipped in bulk quantities by rail. All of these may cause fire when brought into contact with combustible materials.

In accidents involving chlorates, care is necessary to prevent ignition by friction or by contact with acids. When chlorates are mixed with organic matter, or even with dust, they form very flammable mixtures. Chlorates in contact with sulfuric acid are liable to cause fire or explosion.

Solid oxidizers that are mixed with finely divided combustible material may burn with almost explosive violence.

If it is necessary to transfer the contents of a car of these materials, persons familiar with the dangers and techniques should perform the task.

Additional information about these materials will be found in the detailed commodity section which follows. This information should be consulted when assessing the danger of an accident situation involving these materials.

IF FIRE IS PRESENT For liquid oxidizers, water should be used in sufficient quantity to extinguish the fire and to dilute and wash away the liquid. (Remember that the run-off may also be hazardous. Contaminated water should be contained for treatment or disposal.) Whenever water contacts acids, splattering and slight explosions will occur; thus, a stream of water should be applied to the fire from a safe distance. (A good "safe distance" in this case is maximum distance that water from hose streams can be applied effectively.) The reddish fumes caused by fires of nitric acid or mixed acids are irritating and poisonous. Do not expose personnel to such fumes unless they are equipped with self contained breathing apparatus and full protective clothing—the fumes can cause skin damage.

When solid oxidizers, such as sodium nitrate and other nitrates that ordinarily will not burn, are mixed with organic matter during the course of an accident or its cleanup, they will burn strongly if ignited. The heat of burning melts the nitrate which will then ignite any combustible material it touches. Melted nitrate holds a great deal of heat and when water is thrown on it, the sudden generation of steam will cause the melted nitrate to

spatter and start a fresh fire. Whenever practical, fires in nitrate shipments should be smothered with earth or sand. Water should only be used when the fire is small. For the reasons stated above, the use of water on large fires of solid oxidizers is seldom effective.

IF FIRE IS NOT PRESENT Position personnel upwind from the spill or leak. Because these materials can react with combustible materials, such as leaves and twigs, to cause fires, digging holes or the building of earthen dikes may not be effective. Containing the material in an area cleared of combustible material may help to reduce the hazard.

ORGANIC PEROXIDES

GENERAL These materials may be either liquids or solids. They support the burning of combustible materials. Under prolonged exposure to fire or heat, containers of these materials may explode.

Liquid organic peroxides take some effort to ignite but once ignited, they burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination of organic peroxides with a wide variety of chemical substances can cause a violent chemical reaction, therefore, care must be taken during the response effort to consider material compatibility.

Solid organic peroxides are more readily ignited and burn with increasing rapidity as the fire progresses. If mixed with finely divided combustible materials, explosive mixtures may be formed.

Some organic peroxides are shipped under refrigeration. If the refrigeration fails, the product may decompose and give off sufficient heat to start a fire. The driver of a vehicle containing refrigerated organic peroxides is usually highly trained in the properties and handling of the material and has additional technical information on the material in the shipment.

Additional information about these materials will be found in the detailed commodity section which follows. This information should be consulted when assessing the danger of an accident situation involving these materials.

POISON GASES

GENERAL The fumes from poison gases are deadly. Inhalation or contact with the vapors can be fatal and should be avoided. Often poison gas leakage is not noticeable because it cannot be seen or smelled. Use extreme care when handling any container of these gases. The shipper or the nearest manufacturer of the gas should be called for assistance in any incident involving leakage.

Poison gases are transported in single unit tank cars, in cylinders and in multi-unit tank cars. The multi-unit tank car looks like a flat car with a series of cylinders carried on their sides, arranged so that the ends of the "cylinders" (actually DOT Specification 106 or 110 tanks) point towards the sides of the car. The "tanks" or multi-unit tank cars, which may also be transported on trucks or trailers, are detachable, are not insulated and, when used for the movement of poison gases, are not equipped with safety relief devices.

Additional information about these materials will be found in the detailed commodity section which follows. This information should be consulted when assessing the danger of an accident situation involving these materials.

IF FIRE IS PRESENT Because they are not equipped with safety devices, cylinders or multi-unit tanks are liable to burst or rupture when involved in a fire or when subjected to prolonged intense heat. Evacuate the area if the fire cannot be brought under immediate control to protect persons from cylinder fragments and from fumes should an explosion or a rupture occur. If poison gas tanks are not leaking but are endangered by fire,

every effort should be made to extinguish the fire around them or to move the tanks away from the fire.

If the tanks are leaking, the fire may tend to vaporize the leakage and carry its fumes skyward. Do not rely on this to happen.

In clearing a wreck involving these tanks, cutting torches should only be used with extreme caution and then only by persons well trained in their use and familiar with the dangers involved.

IF FIRE IS NOT PRESENT If there is leakage of liquid or gas from a tank or cylinder containing poison gases, keep all persons out of any area where the vapors may accumulate. Detectors for the presence of these fumes are available, but are often so product specific that they may not be readily available. Personnel in the area should be limited to those absolutely essential to make a survey of the danger present. Immediate assistance should be secured from the shipper or consignee.

No person should be allowed to enter the gas contaminated area without being equipped with a self-contained breathing apparatus and fully protective clothing. Persons using such apparatus must be qualified and experienced in its use. Cooling the tank with streams of water may be effective in reducing the internal pressure and rate of leakage. If it is possible to roll the tank so the point of leakage is at the top, the hazard may be reduced considerably. At least two persons should work together, with the second holding him/herself in position to be of assistance to the first in case of emergency.

Any person affected by the gas should be removed from the contaminated area and placed on his/her back with head and back elevated. Call a physician immediately and tell the doctor the poison to which the victim has been exposed. If clothing is saturated with the gas, remove it to prevent skin irritation and burns. Keep the patient warm and quiet. If breathing has apparently ceased, start resuscitation immediately, but remember that mouth-to-mouth artificial respiration may expose the rescuer to fumes inhaled by the victim.

RADIOACTIVE MATERIALS

GENERAL These materials emit certain rays that may be hazardous. These rays can be detected only by instruments. Exposure of humans to intense radiation may be harmful, whereas films may be damaged by radiation of relatively low concentrations. The long term exposure of humans to relatively low levels of radiation may also be hazardous over time, but this is not usually a relevant consideration at an accident site where exposures are likely to be brief.

Additional information about these materials will be found in the detailed commodity section which follows. This information should be consulted when assessing the danger of an accident situation involving these materials.

GENERAL INSTRUCTIONS:

1. Until the extent of the hazard can be determined, keep all persons the greatest practicable distance away.
2. Trains and vehicles may pass if they can do so without stopping in the suspected area and without scattering spilled material.
3. Except for Low Specific Activity materials, PERSONS NOT PROPERLY PROTECTED AGAINST RADIATION MUST NOT BE PERMITTED TO APPROACH THE VICINITY OF ANY PLACE WHERE RADIOACTIVE MATERIAL IS SUSPECTED TO HAVE BEEN SPILLED. Protection of personnel will vary, depending on circumstances and may consist solely of radiation monitoring. In cases where radioactive material has been scattered, anticontamination clothing and a means of shielding personnel from radiation may be necessary.
4. If material is involved in fire or spillage, avoid exposure to smoke fumes or dust.

5. Take precautions to avoid further spreading of spilled materials.

If radioactive material is submerged as a result of the accident, all persons must be kept as far away from the area as is practicable until qualified persons are available to direct the removal of the submerged material.

6. Assistance in handling and arranging for the disposal of radioactive materials can be obtained from the appropriate Department of Energy Regional Coordinating Office or from the 24 hour emergency number of the Nuclear Regulatory Commission. (See map and listing below.)

DETAILED PROCEDURE If there is evidence of any damage to a shipping container, determine, with proper instruments, whether the outside container has been broken open and whether material has been actually exposed or spilled. If the container is damaged, it is generally recommended to proceed as follows, depending on the type of package involved.

FOR SMALL PACKAGES (Fiberboard or wooden boxes or steel or fiber drums weighing less than 200 pounds.):

1. Keep all persons at least 10 feet away if practicable and do not remain near exposed material unnecessarily.
2. If it is impractical to keep persons away, sandbag or cover the radioactive material with at least 4 inches of earth or sand, using a long-handled shovel. Remain near the material only as long as is necessary to accomplish the work.
3. Contact the DOE or NRC telephone number, below, for assistance in arranging for the removal of the material and any necessary decontamination.

FOR PACKAGES OF HEAVY STEEL OR METAL CONSTRUCTION (weighing 200 pounds or more and lined or partially filled with lead, concrete, or paraffin.):

1. If there is any evidence that the container has been broken open or is seriously damaged, observe the recommendations in the GENERAL INSTRUCTIONS until assistance or further advice has been obtained from a competent authority.
2. Even though a container has not been opened or damaged, persons should not remain near container unnecessarily until it has been determined that no radiation hazard exists.

LOW SPECIFIC ACTIVITY (LSA) materials, such as uranium and thorium ores, waste paper or other contaminated scrap materials, are packed in ordinary containers such as bags, steel

or fiber drums, or wooden or fiber boxes and may be in the form of powders, liquids or sludges.

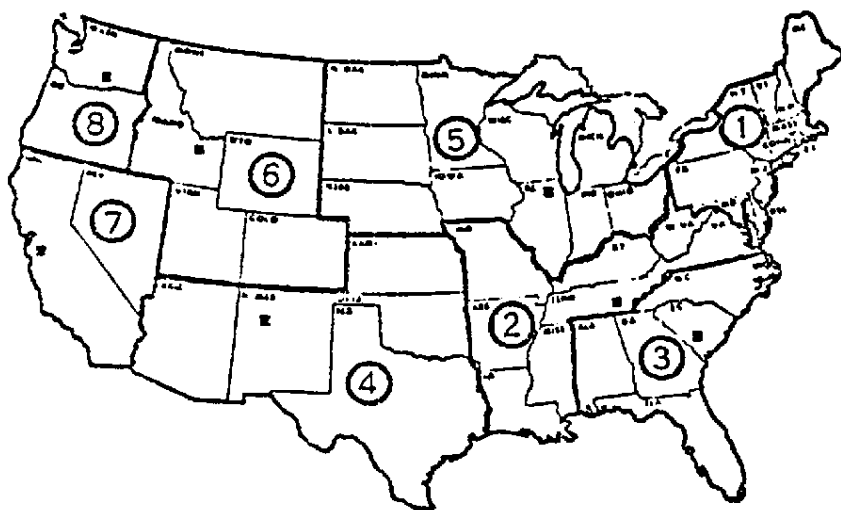
1. Obtain assistance of qualified persons to handle spilled materials. Use the appropriate DOE or NRC telephone number listed below.
2. Avoid direct contact with spilled materials.
3. Protect persons from breathing any dust which may be around these materials. This can be accomplished by approaching from the upwind side or by breathing through respirators or handkerchiefs when other means are not available.
4. Prevent the spread of spilled material and keep it out of streams, reservoirs, or other bodies of water.

FOR DEPARTMENT OF ENERGY—DEPARTMENT OF DEFENSE ESCORTED SHIPMENTS (sometimes shipped as explosive and radioactive material):

1. If guards are present and not incapacitated, follow their recommendations with regard to safety and mitigation of hazards until other assistance arrives.
2. If the guards are incapacitated and the shipment is involved in a fire which cannot be readily brought under control, keep all persons at least a mile away and observe the recommendations in the GENERAL INSTRUCTIONS.
3. If the guards are incapacitated and the shipment is not involved in fire, it should not be moved until proper instructions for its disposition are received from the shipper or the Department of Energy.
4. In addition to the report to National Response Center required in the General Rules, immediately report the accident by telephone to the Albuquerque Operations Office of the Department of Energy, Albuquerque, New Mexico, (505) 844-4667.

For assistance from the Department of Energy Regional Coordinating Office, nearest you please consult the map below and call the office in the region in which assistance is requested. For military shipments (Department of Energy—Department of Defense escorted shipments) contact the Albuquerque Operations Office of the Department of Energy at (505) 844-4667.

For assistance from the Nuclear Regulatory Commission, call (301) 492-8111. This number can be reached on a 24-hour basis.



DOE Regional Offices

- Brookhaven
1—(516) 345-2200
- Oak Ridge
2—(615) 576-6833
or (615) 525-7885
- Savannah River
3—(803) 824-6331, Ex. 3333
- Albuquerque
4—(505) 844-4667
- Chicago
5—(312) 972-5731
or (312) 972-4800
- Idaho
6—(208) 526-1515
- San Francisco
7—(415) 273-4237
- Richland
8—(509) 942-7381

EXPLOSIVES

GENERAL Explosives are chemical compounds, mixtures, or devices, the primary or common purpose of which is to function by explosion. These materials are divided into 3 classes:

Class A explosives will detonate.

Class B explosives function in general by rapid combustion rather than detonation. A fire, once initiated in these materials, is virtually impossible to extinguish until the material has been consumed.

Class C explosives may contain either Class A or B explosives, but in restricted quantities. Small arms ammunition, explosive rivets and common fireworks are examples of this class of explosives.

If an accident involving these materials results in an explosion, about the only thing that can be done is to care for any injured, and to prevent the spread of any fire which may have been caused by the explosion.

When these materials are involved in accidents, it is essential to establish early contact with the Bureau of Explosives and the shipper.

For shipments of explosives made by the Department of Defense that are found in distress, contact the telephone number provided on the government bill of lading for notification/assistance.

Additional information about these materials will be found in the detailed commodity section which follows. This information should be consulted when assessing the danger of an accident situation involving these materials.

IF FIRE IS PRESENT If a fire has started *near* explosives, every effort should be made to put out the fire, or to remove the explosives to a safer place. Some explosives detonate immediately on ignition, others may burn for some time before exploding, and others may be completely consumed without any explosion. However, since burning explosives must be presumed to detonate easily, efforts to extinguish them are not recommended. Applying water to burning explosives may precipitate an explosion through the action of the steam that is generated.

In all cases where explosives are involved in fires or serious accidents on the railroad, the Bureau of Explosives should be notified. The Bureau of Explosives' representative may be able to assist in determining whether the explosive involved may have contaminated the area. If so, necessary procedures for decontamination may be organized.

The recommended evacuation distances for explosives are:

Class A explosives	1 mile
Class B explosives	1/2 mile
Class C explosives	1500 feet.

IF FIRE IS NOT PRESENT If the accident does not cause the immediate ignition or detonation of the explosives, the first and most important precaution is to prevent fire.

The area should be guarded to keep all unauthorized persons away. Because of the potential hazard, it cannot be emphasized strongly enough that access to the accident site should be limited to only those experts necessary to make an initial assessment. All other response personnel should remain beyond the recommended evacuation distances.

Before beginning to clear a wreck containing explosives, remove all unbroken packages to a place of safety and gather any remaining explosive material rendered inert. Many explosives are readily set off by a direct blow or by the spark produced when two pieces of metal or a piece of metal and stone come together. In clearing a wreck, therefore, care must be taken not to start a fire with metal tools. With most explosives, a thorough wetting with water usually removes the danger of explosion from spark or impact but with the various kinds of dynamite, wetting does not make them safe from impacts.

After clearing a wreck involving initiating explosives such as fulminates or azides, the ground should be kept wet until expert decontamination help has arrived and proper final cleanup procedures can be carried out.

If the wreck involves a vehicle containing chemical ammunition, every precaution must be taken to prevent fire and casualties due to gas leakage. Only those persons necessary to clear the wreckage should be allowed in the vicinity of the wreck, and they should be cautioned to keep upwind.

If a shipment of propellant explosives, Class B, is involved, it will bear "Explosives B" placards. All packages in the vehicle will be marked to indicate that they contain propellant explosives. Such explosives may be in the form of very fine grains or extremely large solid pieces weighing several tons. Class B Explosives are not liable to explode from impact or friction, although ignition of such explosives by friction is possible. Care must be exercised while handling broken or damaged packages. Every precaution must be taken to keep Class B Explosives away from sparks or flames since many of these explosives will burn rapidly or explode when ignited. Care must be exercised to avoid unnecessary inhalation of smoke since the products of combustion of a few kinds of propellant explosives may be poisonous.

While handling packages of explosives and transferring them to and from vehicles, the greatest care must be taken, because shocks or falls can injure the containers. The shoes of the people handling the packages must be as free as possible from grit, and all possible precautions must be taken against fire.

A broken box of high explosives that cannot be repackaged should be held until the arrival of an authorized person who can supervise the destruction of the condemned material.

Since particles of explosive composition from damaged containers may be strewn on vehicle floors or freight, care should be exercised to avoid friction or sparks from shoes, tools, or other sources. Use of metal trucks, metal hammers or other metal tools should be avoided. Vehicle floors should be thoroughly swept, and washed with a plentiful supply of water. The wash water should be contained for proper disposal.

Packages of leaking liquid explosives must be disposed of carefully. Leaking packages must:

- be packed in other boxes large enough to permit enclosure,
- be surrounded by at least 2 inches of dry, fine sawdust or dry and clean cotton waste; and
- be stored in a safe place until arrival of an authorized person to supervise the destruction of the condemned materials.

Whenever a vehicle carrying explosives has received rough treatment, inspection of the packages containing explosives must be made (without unnecessarily disturbing the lading) to see that they are properly loaded and secured and are in good condition. Leaking or broken packages must be carefully removed to a safe place. Loose powder or other explosives must be swept up and carefully removed. If the floor is wet with nitroglycerin, the vehicle is unsafe to use. The shipper should be contacted and, if the accident occurs on a railroad, a representative of the Bureau of Explosives should be called immediately to supervise the thorough mopping and washing of the floor with a warm, saturated solution of concentrated lye or sodium carbonate. If necessary, the vehicle must be moved to an isolated area and the shipper should be notified.

BLASTING AGENTS

GENERAL Blasting agents are chemical compounds, mixtures, or devices, the primary or common purpose of which is to function by explosion. These materials are used (primarily) in the mining and agricultural industries for blasting. These materials cannot be detonated with an electric blasting cap and will not explode when subject to friction or impact. When the largest single package used for shipping is subject to fire, it will not

explode, however, fires involving more than one package may explode.

If an accident involving these materials results in an explosion, about the only thing that can be done is to care for any injured, and to prevent the spread of any fire which may have been caused by the explosion.

When these materials are involved in accidents, it is essential to establish early contact with the Bureau of Explosives and the shipper.

For shipments of blasting agents made by the Department of Defense that are found in distress, contact the telephone number provided on the government bill of lading for notification/assistance.

Additional information about these materials will be found in the detailed commodity section which follows. This information should be consulted in assessing the danger of an accident situation involving these materials.

IF FIRE IS PRESENT If a fire has started near blasting agents, every effort should be made to put out the fire, or to remove the blasting agents to a safer place. Some blasting agents may burn for some time before exploding, and others may be completely consumed without any explosion. However, since burning blasting agents must be presumed to explode easily, efforts to extinguish them are not recommended. Applying water to burning blasting agents may precipitate an explosion through the action of the steam that is generated.

In all cases where blasting agents are involved in fires or serious accidents on the railroad, the Bureau of Explosives should be notified. The Bureau of Explosives' representative may be able to assist in determining whether the explosive involved may have contaminated the area. If so, necessary procedures for decontamination may be organized.

The recommended evacuation distance for Blasting Agents is 2500 feet.

IF FIRE IS NOT PRESENT If the accident does not cause the immediate ignition of the blasting agents, the first and most important precaution is to prevent fire.

The area should be guarded to keep all unauthorized persons away. Because of the potential hazard, it cannot be emphasized strongly enough that access to the accident site should be limited to only those experts necessary to make an initial assessment. All other response personnel should remain beyond the recommended evacuation distances.

Before beginning to clear a wreck containing blasting agents, remove all unbroken packages to a place of safety and gather any remaining blasting agents rendered inert. Many blasting agents are readily ignited by a direct blow or by the spark produced when two pieces of metal or a piece of metal and stone come together. In clearing a wreck, therefore, care must be taken not to start a fire with metal tools. As with most explosives, a thorough wetting with water usually removes the danger or ignition from spark or impact.

Care must be exercised to avoid unnecessary inhalation of smoke since the products of combustion of a few kinds of blasting agents may be poisonous.

While handling packages of blasting agents and transferring them to and from vehicles, the greatest care must be taken, because shocks or falls can injure the containers. The shoes of the people handling the packages must be as free as possible from grit, and all possible precautions must be taken against fire.

A broken box of blasting agents that cannot be repackaged should be held until the arrival of an authorized person who can supervise the destruction of the condemned material.

Since particles of blasting agents from damaged containers may be strewn on vehicle floors or freight, care should be exercised to avoid friction or sparks from shoes, tools, or other sources. Use of metal trucks, metal hammers or other metal tools should be avoided. Vehicle floors should be thoroughly swept, and washed with a plentiful supply of water. The wash water should be contained for proper disposal.

Packages of leaking liquid blasting agents must be disposed of carefully. Leaking packages must:

- be packed in other boxes large enough to permit enclosure,
- be surrounded by at least 2 inches of dry, fine sawdust or dry and clean cotton waste, and;
- be stored in a safe place until arrival of an authorized person to supervise the destruction of the condemned materials.

Whenever a vehicle carrying blasting agents has received rough treatment, inspection of the packages containing blasting agents must be made (without unnecessarily disturbing the lading) to see that they are properly loaded and secured and are in good condition. Leaking or broken packages must be carefully removed to a safe place. Loose material must be swept up and carefully removed.

IRRITATING MATERIALS

GENERAL Materials in this classification are such that a person will not remain in an area contaminated by them unless escape is impossible. Upon contact with fire or exposure to air, these liquid or solid materials give off intensely irritating fumes. Those which are shipped as liquids or gases might delay the clearance of wreckage if they leak, but otherwise they are not particularly hazardous.

To move leaking or broken packages, they may be approached with safety from the windward side provided there is a breeze brisk enough to carry away the fumes and the broken or leaking package is not in a confined place. The use of self contained breathing apparatus and appropriate protective gear will reduce the chance of noxious contact.

Additional information about these materials will be found in the detailed commodity section which follows. This information should be consulted when assessing the danger of an accident situation involving these materials.

ETIOLOGIC AGENTS

GENERAL An "etiologic agent" means a viable microorganism, or its toxin, which causes or may cause human disease. Whenever packages bearing the "Etiologic Agents" label are discovered leaking in transit, all unnecessary movement of the vehicle must cease and the vehicle must be isolated. Contact with the material must be avoided.

Immediately notify the Director, Center for Disease Control, Atlanta, Georgia (404) 633-5313, for information on handling the incident.

OTHER REGULATED MATERIALS (ORM)

GENERAL These materials are regulated because they may pose an unreasonable risk to health and safety or property when transported, but they do not meet the definitions of the other hazard classes in the DOT hazardous materials regulations. Other Regulated Materials are subdivided as follows:

ORM-A materials have an anesthetic, irritating, noxious, toxic or other similar property and, in the event of a leakage during transportation, they can cause extreme annoyance or discomfort to the passengers and crew of transport vehicles.

ORM-B materials are those which could cause damage to a transport vehicle or vessel from leakage during transportation. Basically, the danger from these materials is their corrosivity to aluminum and the subsequent danger they could pose for aircraft.

ORM-C materials are those which are unsuitable for transport unless properly identified and prepared. All commodities in this group are specifically named in the DOT regula-

tions and almost all of them are regulated only for transportation by water.

ORM-D materials are consumer commodities in packages like those found on store shelves. They present a minimal hazard during transportation because of the form, quantity or packaging in which they move.

ORM-E materials are those not included in any other hazard classification but which are either Hazardous Wastes or Hazardous Substances as defined by the Environmental Protection Agency.

Additional information about these materials will be found in the detailed commodity section which follows. This information should be consulted when assessing the danger of an accident situation involving these materials.

AN EXPLANATION OF TERMS USED FOR EMERGENCY RESPONDERS

The emergency response recommendations given for the hazardous materials in the second section of this book use specific terms with specific meanings. Virtually all of these terms are self explanatory to trained emergency responders, but, as an aid to training and to avoid the danger of confusion, further information about many of the terms is given below. The terms will be grouped and presented in the order in which they appear in section two.

FIRE Responses:

"Use water in flooding quantities as fog"—Flooding quantities are amounts of water which will engulf the object against which they are directed. The water should be applied with a fog nozzle.

"Solid streams of water may be ineffective"—Solid streams of water will not provide the cooling or vapor dispersing effect that a fog will. Water applied in a solid stream will sink through a pool of chemical and will have little or no effect.

"Apply water from as far a distance as possible"—Water should be applied from as far away as the hose stream will reach. Unmanned monitor nozzles are a good option if the stream can be controlled to be effective.

"Suitable" (as in "Use suitable dry powder" or "Extinguish fires using agent suitable for type of fire")—The properties of the burning material must be known and the proper agent employed to apply to it. At the very least, this requires that the product(s) involved in the fire be known.

"Do not use water on material itself"—The material will react with water producing noxious products. The application of water will also promote vaporization of the material due to the heat of reaction with water.

"Use water spray to absorb vapors"—Apply a water fog downwind of a leak, through the vapor cloud taking care to keep water out of the container and, if present, a pool of the product on the ground.

"Do not apply water to point of leak in tank car or container"—Water will react with the product to produce a material that will markedly increase the rate of corrosion or erosion about the hole.

"Water spray or foam may be ineffective"—The size of the probable fire or the reaction between the commodity and water or foam is such that other extinguishing agents will give a better performance.

"Low order explosive potential"—A "low order explosion" has been described as one that goes "wump" or "woosh" instead of "bang."

NON-FIRE Responses:

"Use water spray to knock down vapors"—Direct a water fog or spray, rather than a solid stream downwind into the vapor cloud.

"Use water spray to disperse vapors and dilute standing pools of liquid"—This is basically the same advice as given just above with the added consideration of the dilution of the spilled product.

"Do not use water on material itself"—As noted above under the fire responses, water will have an adverse reaction with the material.

"Do not apply water to the point of leak in tank car or container"—Also as noted above in the fire response section, application of water to the point of leak will cause a reaction between the material and the water which will increase the size of the hole.

PERSONNEL Responses:

Several of the recommendations in this section use the term "protective," as in "protective gloves" and "protective clothing." Obtaining protection from a hazardous commodity requires at least knowing the name of the commodity and understanding its hazardous properties. Shippers and manufacturers of chemicals, suppliers of safety equipment, NIOSH (the National Institute of Occupational Safety and Health), OSHA (the Occupational Safety and Health Administration), NFPA (the National Fire Protection Association), CHEMTREC, the Bureau of Explosives and standard chemical reference works can provide guidance about the suitability of various types of protective equipment with specific chemicals.

Explanations of other terms used in this portion include:

"Wear full protective clothing"—Full protection from a hazardous material requires knowing what the material is and wearing suitable protective equipment which will not be penetrated, eaten away or destroyed. If called for on materials with large leaks, full "acid suit" type gear is required. In most cases where this recommendation is given, traditional fireman's turn out gear is NOT "full protective clothing."

"Avoid bodily contact with the material"—This recommendation applies to commodities with a lower personnel hazard potential than those for which "full protective clothing" is applicable. It is not to be taken lightly and requires knowledge of the material and its dangers. As a practical matter, specialized gear *other than* fireman's turn out gear may be required.

"Wear self contained breathing apparatus"—For many chemicals, pressure demand breathing apparatus is not adequate and a positive pressure system must be used to prevent fumes from entering the mask during inhalation.

"Do not handle broken packages without protective equipment"—While packages which are still tight do not pose a special danger, the material which may have escaped from a broken package does require suitable protective measures.

"Wear self contained breathing apparatus when fighting fires of this material"—The fumes given off by combustion of the material require respiratory protection.

"If contact with the material anticipated, wear full protective clothing"—One can be near the commodity without suffering harm, but contact with it is dangerous.

"Wear boots, protective gloves and gas tight goggles"—In addition to the precautions already noted, this material is harmful or very irritating to the eyes.

EVACUATION Responses:

These responses typically mention an evacuation radius. In all cases, these are minimum distances and do not take into account particular local situations or exposures.

Where an evacuation distance is mentioned in relation to fire involving a container (for example: "If fire is prolonged and material is confined in the container . . ."), it is based on the distances which fragments have been thrown from rupturing containers of the particular product.

Where an evacuation distance is mentioned in relation to a leak without fire and the commodity is nonflammable (for example, "If material leaking (not on fire) evacuate for a radius of 2500 feet."), it is based on the noxious or toxic properties of the material and the minimum potential radius of a cloud of its fumes. In the case of a flammable material, it is based on the potential that a cloud of the material will ignite and burn rapidly back to the source of the leak.

Where an evacuation distance is mentioned such as "If the material is on fire or involved in fire evacuate for a radius of 5000 feet," the effects of fire on the material can be so disastrous that no attempt should be made to fight the fire.

Responses such as "If fire becomes uncontrollable—evacuate . . ." mean that small fires involving the material may be

fought but that large, uncontrollable fires either are impossible to extinguish or may result in a violent rupture of the container.

If during the preparation of a training program using this book, additional questions arise about the selection or meaning of the recommended responses, additional help is available from the Bureau of Explosives by contacting:

Patrick J. Student
Manager—Operations Analysis
Bureau of Explosives
Association of American Railroads
1920 L Street, NW
Washington, DC 20036
(202) 293-4048

MCD 000016925

**INTERGOVERNMENTAL MARITIME
CONSULTIVE ORGANIZATION
HAZARD CLASSES**

Class Number	Class Name
1	Explosives
2	Gases
3	Flammable and Combustible Liquids
4	Flammable Solids
5	Oxidizers and Organic Peroxides
6	Poisons
7	Radioactive Materials
8	Corrosives

The IMCO classifications are further divided, by adding decimal numbers following the basic classes, into divisions. For instance IMCO class 2 (gases) is divided:

Class 2	Gases
Division 2.1	Flammable gases
Division 2.2	Nonflammable gases
Division 2.3	Poison gases

MCD 000016926

**COMMODITY SPECIFIC EMERGENCY
RESPONSE AND ENVIRONMENTAL
CONTAINMENT INFORMATION**

**BUREAU OF EXPLOSIVES
Association of American Railroads
1920 L Street, Washington, D.C. 20036**

**Telephone: 202-293-4048
(This number may be reached at all times)**

MCD 000016927

ACCUMULATOR, PRESSURIZED **4904825**
NONFLAMMABLE GAS **NA1956**
Accumulators, pressurized are devices containing a nonflammable gas under pressure.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Personnel protection
Avoid breathing vapors
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

ACETAL **4908103**
FLAMMABLE LIQUID **UN1088**
Acetal is a clear colorless liquid with a pleasant odor. It has a flash point of -5 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid
Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

ACETALDEHYDE **4907210**
FLAMMABLE LIQUID **UN1089**
POLYMERIZABLE
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Acetaldehyde is a clear colorless liquid with a pungent choking odor. It is used to make other chemicals. It has a flash point of -36 deg. F. and a boiling point of 69 deg.f. It is flammable over a wide vapor-air concentration range. Its vapors are irritating to the mucous membranes and especially the eyes. It is easily oxidized by air to form unstable peroxides which may explode. If it becomes contaminated, it may either react with the contaminant or polymerize, both with the evolution of heat. It is lighter than water and soluble in water. Its vapors are heavier than air.
It weighs 6.5 pounds per gallon.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid
Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered
Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
Neutralize with sodium bisulfate (nahso4)
Environmental considerations—water spii
Add sodium bisulfate
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
Environmental considerations—air spill
Apply water spray or mist to knock down vapors

ACETALDEHYDE AMMONIA **4941103**
ORM-A **UN1841**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Acetaldehyde ammonia is a white crystalline solid. It is used to make other chemicals, vulcanize rubber, and for other uses. It is soluble in water. It will burn though it may take some effort to ignite. It can cause illness by inhalation, skin absorption and/or ingestion.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water
Environmental considerations—water spill
Neutralize with dilute acid or removable strong acid
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ACETIC ACID (AQUEOUS SOLUTION) 4931401
CORROSIVE MATERIAL, ACIDIC UN2790
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Acetic acid (aqueous solution) is the solution of acetic acid in water having the odor of vinegar. It is corrosive to metals and tissue. It weighs 8.8 pounds per gallon.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with caustic soda or soda ash

Environmental considerations—water spill

- Add caustic soda

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

ACETIC ACID, GLACIAL 4931303
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN2789
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Acetic acid, glacial is a clear colorless liquid with a strong odor of vinegar. It is used to make other chemicals, as a food additive, and in petroleum production. It is combustible and has a flash point of 104 deg. F. It is soluble in water with release of heat. It is corrosive to metals and tissue.

It weighs 8.8 pounds per gallon.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with caustic soda or soda ash

Environmental considerations—water spill

- Add caustic soda

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

ACETIC ANHYDRIDE 4931304
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN1715
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Acetic anhydride is a clear colorless liquid with a strong odor of vinegar. It is used to make fibers, plastics, pharmaceuticals, dyes, and explosives. It is combustible and has a flash point of 129 deg. F. It is soluble in water and is readily decomposed by water to acetic acid with release of heat. It is corrosive to metals and tissue.

It weighs 9.0 pounds per gallon.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with caustic soda or soda ash

Environmental considerations—water spill

- Add caustic soda

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

**ACETONE
FLAMMABLE LIQUID**

**4908105
UN1090**

Acetone is a clear, colorless liquid with a pleasant odor. It is used to make other chemicals, in paint and nail polish removers, as a solvent, and for other uses. It is quite volatile and has a flash point of 0 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

**ACETONE CYANOHYDRIN
POISON B, COMBUSTIBLE
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)**

**4921401
UN1541**

Acetone cyanohydrin is a colorless liquid. It has a flash point of 165 deg. F. It slowly dissociates to acetone, a flammable liquid, and hydrogen cyanide, a flammable poisonous gas, under normal storage and transportation conditions. The rate of dissociation is increased by contact with alkalis and/or heat. It is lethal by inhalation and less readily by skin absorption. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

It weighs 7.8 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Keep run-off water out of sewers and water sources

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Adjust pH to neutral (pH-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**ACETONE OIL
FLAMMABLE LIQUID**

**4908106
UN1091**

Acetone oils are clear amber colored liquids. Their flash point is in the range of 50-100 deg. F. It is lighter than water and is soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

**ACETONITRILE
FLAMMABLE LIQUID, POISONOUS**

**4907405
NA1648**

Acetonitrile is a clear colorless liquid with an ethereal odor. It has a flash point of 42 deg. F. It is toxic by skin absorption. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

ACETYL BENZOYL PEROXIDE SOLUTION (NOT OVER 40% PEROXIDE) 4919505

ORGANIC PEROXIDE

UN2081

Acetyl benzoyl peroxide solution is a clear colorless liquid. The solution cannot be more than 40% acetyl benzoyl peroxide in a non-volatile solvent. The solution may take some effort to ignite but once ignited it burns with increasing rapidity. The dried material is quite easily ignited and burns with increasing rapidity. The dried material if contaminated with combustible material can form explosive mixtures. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

ACETYL BROMIDE

4931705

CORROSIVE MATERIAL, ACIDIC

UN1716

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Acetyl bromide is a colorless fuming liquid with a pungent odor. It is decomposed by water to acetic and hydrobromic acids with release of heat. Its vapors are irritating to the eyes and mucous membranes. It is corrosive to metals and tissue.

It weighs 13.9 pounds per gallon.

If material on fire or involved in fire

Use dry chemical or carbon dioxide
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Adjust pH to neutral (pH-7)

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors
Vapor knockdown water is corrosive or toxic and should be diked for containment

ACETYL IODIDE

4931707

CORROSIVE MATERIAL, ACIDIC

UN1898

Acetyl iodide is a colorless, fuming liquid with a pungent odor. Its vapors are irritating to the eyes and mucous membranes. It is decomposed by water to acetic and hydriodic acids with release of heat. It is corrosive to metals and skin.

If material on fire or involved in fire

Use dry chemical or carbon dioxide
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

**ACETYL CYCLOHEXANESULPHONYL PEROXIDE, 4919103
(NOT MORE THAN 32% IN SOLUTION)
ORGANIC PEROXIDE UN2082**

Acetyl cyclohexanesulphonyl peroxide, (not more than 32% in solution) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**ACETYL CYCLOHEXANESULPHONYL PEROXIDE, 4919104
(NOT MORE THAN 82%, WETTED WITH NOT
LESS THAN 12% WATER)****ORGANIC PEROXIDE UN2082**

Acetyl cyclohexanesulphonyl peroxide, (not more than 82%, wetted with not less than 12% water) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**ACETYL CHLORIDE 4907601
FLAMMABLE LIQUID, CORROSIVE UN1717
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Acetyl chloride is a colorless, fuming liquid with a pungent odor. It has a flash point of 40 deg. F. Its vapors are irritating to the eyes and mucous membranes. It is decomposed by water to acetic and hydrochloric acids with release of heat. It is corrosive to metals and tissue. Its vapors are heavier than air.

It weighs 9.2 pounds per gallon.

If material on fire or involved in fire

- Use dry chemical or carbon dioxide
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

Continued on next page

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

ACETYL PEROXIDE SOLUTION, (NOT OVER 25% PEROXIDE) 4919510

ORGANIC PEROXIDE UN2084
 Acetyl peroxide, solution is a clear colorless liquid. The solution cannot contain more than 25% acetyl peroxide in a non-volatile solvent. The solution may take some effort to ignite but once ignited it burns with increasing rapidity. The dried material is quite easily ignited and burns with increasing rapidity. If contaminated with combustible material, the dried material can form explosive mixtures. Under prolonged exposure to heat or fire containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Keep spilled material wet

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

ACETYLENE 4905701
FLAMMABLE GAS UN1001
 Acetylene is a colorless gas with a faint garlic like odor. It is easily ignited and burns with a sooty flame. It may only be shipped in cylinders, and that only of one type that may be used for no other commodity. The gas is lighter than air but a flame can flash back to the source of a leak very easily. Under fire conditions, cylinders may violently rupture and rocket.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

ACID FISH SCRAP (FISH SCRAP (CONTAINING LESS THAN 6% OR MORE THAN 12% MOISTURE)) 4917461
FLAMMABLE SOLID NA1374
 Acid fish scrap that is too dry is liable to spontaneous heating and ignition; or too wet is liable to decay, spontaneous heating and ignition.

If material on fire or involved in fire
 Flood with water

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

ACID, NEC, DRY, ORGANIC (CORROSIVE SOLID, N.O.S.) 4931403
CORROSIVE MATERIAL, ACIDIC UN1759
 Acid, nec, dry, organic is a solid material having the property of being corrosive to metals and/or tissue.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

ACIDS, CHEMICAL AND OTHER ARTICLES, MIXED 4950110
LOAD
 Consult the shipping papers for the exact contents of the car, container, or trailer.

ACIDS, INORGANIC, NEC, DRY (CORROSIVE SOLID, N.O.S.) 4930212

CORROSIVE MATERIAL, ACIDIC UN1759

Acids, inorganic nec, dry are various solid materials that have the property of being corrosive to tissue.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Build dikes to contain flow as necessary

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors

Keep upwind

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

If contact with the material anticipated, wear full protective clothing

ACIDS, INORGANIC, NEC, LIQUID (ACIDS, LIQUID, N.O.S.) 4930201

CORROSIVE MATERIAL, ACIDIC NA1760

Acids, inorganic, nec, liquid are materials which have the property of being corrosive to metals and or tissue. They are generally heavier than water and soluble in water. They are generally noncombustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors

Keep upwind

Wear self-contained breathing apparatus

Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

ACIDS, LIQUID, N.O.S. (ACIDS, NEC, LIQUID, ORGANIC) 4931404

CORROSIVE MATERIAL, ACIDIC NA1760

Acids, nec, liquid, organic are materials which have the property of being corrosive to metals and or tissue.

If material on fire or involved in fire

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors

Keep upwind

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

If contact with the material anticipated, wear full protective clothing

**ACROLEIN, INHIBITED
FLAMMABLE LIQUID, POISONOUS
POLYMERIZABLE**

4906410

UN1092

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Acrolein is a colorless to yellow colored volatile liquid with a pungent odor, it is used to make other chemicals, plastics, and as a herbicide. It has a flash point of less than 0. deg. F. It is initially irritating to the eyes and mucous membranes; prolonged exposure may lead to death. The material is subject to polymerization if its containers are subject to heat or if it becomes contaminated. It is soluble in water and it is lighter than water. The vapors are heavier than air.

It weighs 7.0 pounds per gallon.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors

Keep upwind

Wear self-contained breathing apparatus

Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 5000 feet

If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Neutralize with sodium bisulfate (nahso4)

Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill

Use natural barriers or oil spill control booms to limit spill motion

Add sodium bisulfate

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

Combustion products include corrosive or toxic vapors

ACRYLAMIDE SOLUTION (COMBUSTIBLE LIQUID, N.O.S.) 4913187
COMBUSTIBLE LIQUID NA1993
 Acrylamide solution is the colorless crystalline solid dissolved in a solvent. It is used for sewage and waste treatment, to make dyes, adhesives, and for many other uses. The flash point of the material depends on the solvent used, but is between 100 and 199 deg. F. It is lighter than water and is soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

ACRYLAMIDE SOLUTION (FLAMMABLE LIQUID, N.O.S.) 4909183
FLAMMABLE LIQUID UN1993
 Acrylamide solution is the colorless crystalline solid dissolved in a solvent. It is used for sewage and waste treatment, to make dyes, adhesives, and for many other uses. The flash point of the material depends on the solvent used, but is less than 100 deg. F. It is lighter than water and is soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

ACRYLIC ACID 4931405
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN2218
 Acrylic acid is a colorless liquid. It is combustible and it has a flash point of 130 deg. F. It is soluble in water. It is corrosive to metals and tissue. Prolonged exposure to fire or heat can cause the material to polymerize. If polymerization takes place in a container violent rupture may occur.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Use water spray to absorb vapors

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet

ACRYLONITRILE 4906420
FLAMMABLE LIQUID, POISONOUS UN1093
POLYMERIZABLE
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
 Acrylonitrile is a clear colorless liquid with a strong pungent odor. It is used in insecticides and to make plastics, fibers and other chemicals. It has a flash point of 32 deg. F. It may polymerize if contaminated with strong bases or if the container is subject to heat as in fire conditions. Prolonged exposure to the vapors or skin contact may result in death. It is lighter than water and is soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

It weighs 6.7 pounds per gallon.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

Use natural barriers or oil spill control booms to limit spill motion
Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
Add calcium hypochlorite
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors
Combustion products include corrosive or toxic vapors

ACTIVE PRIMARY AMYL ALCOHOL (ALCOHOL, N.O.S.) 4913106

COMBUSTIBLE LIQUID UN1987

Active primary amyl alcohol is a clear colorless liquid. It has a flash point of 115 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ACTIVE SEC-AMYL ALCOHOL (ALCOHOL, N.O.S.) 4909106

FLAMMABLE LIQUID UN1987

Active sec-amyl alcohol is a clear colorless liquid. It has a flash point of 89 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ACTUATING CARTRIDGE, EXPLOSIVE (FIRE EXTINGUISHER OR VALVE) 4903305

CLASS C EXPLOSIVE
Actuating cartridge, explosive is a small metal or fiber housing containing a small amount of explosive and is used to activate remotely controlled fire extinguishers and other apparatus.

If material on fire or involved in fire

Flood with water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Personnel protection

Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If fire becomes uncontrollable—evacuate for a radius of 1500 feet

ADDITIVES, FUEL OIL, GASOLINE OR LUBRICATING OIL, CONTAINING LESS THAN 50% BY WEIGHT PETROLEUM OIL (FLAMMABLE LIQUID, N.O.S.) 4910535

FLAMMABLE LIQUID UN1993

Additives, fuel oil, gasoline or lubricating oil are various colored liquids having a petroleum-like odor. Their flash point is below 100 deg. F. They are lighter than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ADDITIVES, FUEL OIL, GASOLINE OR LUBRICATING OIL, CONTAINING LESS THAN 50% BY WEIGHT OF PETROLEUM (COMBUSTIBLE LIQUID, N.O.S.) **4915535**
COMBUSTIBLE LIQUID **NA1993**

Additives, fuel oil, gasoline or lubricating oil, are various colored liquids having a petroleum-like odor. They have a flash point between 100 and 200 deg. F. They are lighter than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ADHESIVE, N.O.S. **4910504**
FLAMMABLE LIQUID **NA1133**

Adhesive, n.o.s. is the solution of various gums and resins in various solvents. The liquids are quite thick and range from a clear colorless to a black "tar". The flash point will depend on the solvent used, but it will be below 100 deg. F. The hazard of this material is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ADHESIVE, N.O.S. **4915504**
COMBUSTIBLE LIQUID **NA1133**

Adhesive, n.o.s. is the solution of various gums and resins in various solvents. The liquids are quite thick and range from a clear colorless to a black "tar". The flash point will depend on the solvent used, but it will be between 100 and 199 deg. F. The hazard of this material is combustibility.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ADIPIC ACID **4966110**
ORM-E **NA9077**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Adipic acid is a white crystalline solid. It is used to make plastics and foams and for other uses. It is insoluble in water. It will burn though it may take some effort to ignite.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors or dusts
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AFTER SHAVE LOTIONS (COMBUSTIBLE LIQUID, N.O.S.) **4915424**

COMBUSTIBLE LIQUID **NA1993**

After shave lotions may contain significant amounts of alcohol. Their flash point is between 100 and 199 deg. F. They are lighter than water and soluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

AFTER SHAVE LOTIONS (FLAMMABLE LIQUID, N.O.S.) 4910424

FLAMMABLE LIQUID UN1993
 After shave lotions may contain significant amounts of alcohol. Their flash point is below 100 deg. F. They are lighter than water and soluble in water. Their vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

AIR CONDITIONING MACHINE, FLAMMABLE GAS (See REFRIGERATING MACHINE, FLAMMABLE GAS 4905867)

AIR CONDITIONING MACHINE, FLAMMABLE LIQUID (See REFRIGERATING MACHINE, FLAMMABLE LIQUID 4910167)

AIR CONDITIONING MACHINE, NONFLAMMABLE GAS (See REFRIGERATING MACHINE, NONFLAMMABLE GAS 4904867)

AIR, COMPRESSED 4904501
NONFLAMMABLE GAS UN1002

Air, compressed is ordinary air, compressed and shipped in cylinders under pressure.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Attempt to stop leak if without hazard

Personnel protection
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Approach fire with caution

AIRCRAFT ROCKET ENGINE (COMMERCIAL) 4917405
FLAMMABLE SOLID NA2791

Aircraft rocket engine (commercial) consists of a solid metal case containing a solid composite fuel—not classed as an explosive, and containing no explosive material or element.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Avoid breathing fumes from burning material

Evacuation
 If fire is prolonged and material is confined in the container—evacuate for a radius of 5000 feet
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet

AIRCRAFT ROCKET ENGINE IGNITER (COMMERCIAL) 4917410
FLAMMABLE SOLID UN2792

Aircraft rocket engine igniter (commercial) are devices containing a small quantity of ignition material. They must be packaged in sealed metal containers.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

ALCOHOL DISTILLATES, SYNTHETIC (ALCOHOL, N.O.S.) 4915401

COMBUSTIBLE LIQUID UN1987

Alcohol distillates, synthetic are materials having a closed cup flash point between 100 and 199 deg. F. The hazard is combustibility.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALCOHOL DISTILLATES, SYNTHETIC (ALCOHOL, N.O.S.) 4910401

FLAMMABLE LIQUID UN1987

Alcohol distillates, synthetic are materials having a closed cup flash point of less than 100 deg. F. The hazard is flammability.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALCOHOL IN BOND, FREE OF INTERNAL REVENUE TAX (ALCOHIC BEVERAGE) 4910102
FLAMMABLE LIQUID UN1170
Alcohol in bond is a clear colorless to amber colored liquid with a characteristic odor. It has a flash point of less than 100 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALCOHOL IN BOND, FREE OF INTERNAL REVENUE TAX (ALCOHIC BEVERAGE) 4915102
COMBUSTIBLE LIQUID UN1170
Alcohol in bond is a clear colorless to amber colored liquid with a characteristic odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALCOHOL OR SPIRITS, FRUIT, EXCEPT GRAPE, NEUTRAL, IN BOND (ALCOHOLIC BEVERAGE) 4915104
COMBUSTIBLE LIQUID UN1170
Alcohol or spirits, fruit, except grape, neutral is a clear colorless to variable colored liquid with a characteristic odor. It has a flash point of between 100 and 199 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALCOHOL OR SPIRITS, FRUIT, EXCEPT GRAPE, NEUTRAL, IN BOND (ALCOHOLIC BEVERAGE) 4910104
FLAMMABLE LIQUID UN1170
Alcohol or spirits, fruit, except grape, neutral is a clear colorless to variable colored liquid with a characteristic odor. It has a flash point of less than 100 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALCOHOL OR SPIRITS, GRAPE, NEUTRAL IN BOND 4910103
(ALCOHOLIC BEVERAGE)
FLAMMABLE LIQUID UN1170

Alcohol or spirits, grape, neutral is a clear colorless to variable colored liquid with a characteristic odor. It has a flash point of less than 100 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALCOHOL OR SPIRITS, GRAPE, NEUTRAL IN BOND 4915103
(ALCOHOLIC BEVERAGE)

COMBUSTIBLE LIQUID UN1170

Alcohol or spirits, grape, neutral is a clear colorless to variable colored liquid with a characteristic odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALCOHOL, CONTAMINATED, SUITABLE FOR ONLY 4910501
BLENDING OR REDISTILLING PURPOSES
(ALCOHOL, N.O.S.)

FLAMMABLE LIQUID UN1987

Alcohol, contaminated, suitable only for blending or redistilling purposes is a clear colorless to dark colored liquid. It has a flash point of less than 100 deg. F. It is lighter than water and generally is soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALCOHOL, CONTAMINATED, SUITABLE ONLY FOR 4915501
BLENDING OR REDISTILLING PURPOSES
(ALCOHOL, N.O.S.)

COMBUSTIBLE LIQUID NA1993

Alcohol, contaminated, suitable only for blending or redistilling purposes is a clear colorless to dark colored liquid. It has a flash point between 100 and 199 deg. F. It is lighter than water and generally is soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALCOHOL, N.O.S. 4913103
COMBUSTIBLE LIQUID UN1987

Alcohol, n.o.s. is the proper shipping name for the family of organic chemicals called "alcohols". Those classed as combustible liquid have a flash point between 100 and 199 deg. F. Most alcohols, n.o.s. are soluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALCOHOL, N.O.S. 4909105
FLAMMABLE LIQUID UN1987

Alcohol, n.o.s. is the proper shipping name for the family of organic chemicals called "alcohols". Their flash point is less than 100 deg. F. Most alcohols, n.o.s. are soluble in water. Their vapors are heavier than air. Their main hazard is flammability.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALCOHOLS, FATTY OR CYCLIC, ETHOXYLATED 4915108
(ALCOHOL, N.O.S.)
COMBUSTIBLE LIQUID NA1993

Alcohols, fatty or cyclic, ethoxylated are clear colorless liquids. their flash point is between 100 an 199 deg. F. They are lighter than water and are generally insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALCOHOLS, FATTY OR CYCLIC, ETHOXYLATED 4910111
(ALCOHOL, N.O.S.)

FLAMMABLE LIQUID UN1987

Alcohols, fatty or cyclic, ethoxylated are clear colorless liquids. their flash point is less than 100 deg. F. They are lighter than water and are generally insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALDOL (COMBUSTIBLE LIQUID, N.O.S.) 4913105
COMBUSTIBLE LIQUID NA1993

Aldol is a clear colorless to pale yellow syrupy liquid. It has a flash point of 150 deg. F. It is heavier than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALDRIN 4921403
POISON B NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
Aldrin is a brown to white crystalline solid. It is insoluble in water and is non-combustible. It is toxic by inhalation and skin absorption. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing vapors or dusts
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ALDRIN MIXTURE, DRY (WITH MORE THAN 65% ALDRIN) 4921407

POISON B NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Aldrin mixture, dry is a white to brown crystalline solid. Aldrin itself is non-combustible and insoluble in water. The other material in the mixture may or may not be combustible or water soluble. It is toxic by inhalation (dusts, etc) and by skin absorption. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing vapors or dusts
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ALDRIN MIXTURE, DRY, WITH 65% OR LESS ALDRIN 4941109
ORM-A NA2761

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Aldrin mixture, dry, is a white to brown colored solid. It is used as an insecticide. Aldrin, itself, is noncombustible and insoluble in water. The other material in the mixture may or maybe combustible or water soluble. It may cause sickness due to inhalation of dust or by skin absorption. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone- 800-424-9300.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ALDRIN MIXTURE, LIQUID (WITH MORE THAN 60% ALDRIN) 4921406

POISON B NA2762
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Aldrin mixture, liquid is a colorless to brown colored liquids. Aldrin itself is a non-combustible solid but the liquid mixture may be flammable combustible or non-combustible depending on the flammable property of the solvent. Its vapors are heavier than air. It is toxic by inhalation and skin absorption. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 Use natural barriers or oil spill control booms to limit spill motion
 Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
 Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Remove trapped material with suction hoses
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ALDRIN MIXTURE, LIQUID, WITH 60% OR LESS ALDRIN 4941108

ORM-A NA2762 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Aldrin mixture, liquid is a colorless to brown colored liquid. It is used as an insecticide. Aldrin itself is a noncombustible solid, but the liquid may be combustible or noncombustible depending upon the flammable property of the liquid. Its vapors are heavier than air. It can cause sickness due to inhalation of the vapors or by skin absorption. In case of damage to, or leaking from containers of this material contact the pesticide network. Telephone- 800-424-9300.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 Use natural barriers or oil spill control booms to limit spill motion
 Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
 Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ALDRIN, CAST SOLID 4941107
ORM-A NA2761 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Aldrin, cast solid is a brown to white solid. It is used as an insecticide. If the large pieces are broken up or powdered, it is toxic by inhalation and skin absorption. It is insoluble in water and noncombustible. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone- 800-424-9300.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Remove trapped material with suction hoses
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ALKALINE CORROSIVE BATTERY FLUID 4935210
CORROSIVE MATERIAL, BASIC UN2797

Alkaline corrosive battery fluid consists of a water solution of potassium hydroxide. It is corrosive to metals and tissue

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Avoid breathing vapors
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

ALKALINE CORROSIVE BATTERY FLUID PACKED 4936565
WITH BATTERY CHARGER, RADIO CURRENT SUPPLY DEVICE OR ELECTRONIC EQUIPMENT AND ACTUATING DEVICES

CORROSIVE MATERIAL, BASIC NA2797
 Alkaline corrosive battery fluid packed with battery charger, radio current supply device or electronic equipment and actuating devices consist of containers of alkaline corrosive battery fluid. Packed in the same outside shipping container with battery charger, radio current supply device or electronic equipment and actuating devices. The alkaline corrosive battery fluid is soluble in water with evolution of heat. It is corrosive to metals and tissue

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Apply water from as far a distance as possible
If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involv-
ing this material
If contact with the material anticipated, wear full protective clothing

ALKALINE CORROSIVE BATTERY FLUID WITH 4935215
EMPTY STORAGE BATTERY
CORROSIVE MATERIAL, BASIC UN2797
Alkaline corrosive battery fluid with empty storage battery is the stor-
age battery packed together with containers of the battery fluid. The
fluid is a water solution of potassium hydroxide. It is corrosive to metals
and tissue.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Avoid breathing vapors
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

ALKALINE CORROSIVE LIQUID, N.O.S. 4935220
CORROSIVE MATERIAL, BASIC NA1719
Alkaline corrosive liquid, n.o.s. are materials having the property of
being corrosive to metals and/or tissue. Most of these materials are
water soluble.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Avoid breathing vapors
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

ALKANESULFONIC ACID 4931408
CORROSIVE MATERIAL, ACIDIC UN2584
Alkanesulfonic acid is a mixture of methane, ethane, and propane
sulfonic acids which is a colorless to amber colored liquid. It is soluble
in water with release of heat. It is corrosive to metals and tissue.
If material on fire or involved in fire
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Use water spray to absorb vapors
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Neutralize spilled material with crushed limestone, soda ash, or lime
Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

ALL FREIGHT RATE SHIPMENTS, NEC (TOFC) 4950150
Consult the shipping papers for the exact contents of the car, con-
tainer, or trailer.

ALLYL ALCOHOL 4907425
FLAMMABLE LIQUID, POISONOUS UN1098
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Allyl alcohol is a clear colorless liquid with a mustard-like odor. It has
a flash point of 70 deg. F. It is toxic by inhalation and ingestion. It is
lighter than water and soluble in water. Its vapors are heavier than air.
It weighs 7.1 pounds per gallon.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of
liquid
Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water

Continued on next page

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

ALLYL BROMIDE**4907410****FLAMMABLE LIQUID, POISONOUS****UN1099**

Allyl bromide is a clear colorless to light yellow liquid with an irritating, unpleasant odor. It has a flash point of 30 deg. F. It is an eye, skin, and respiratory irritant. Prolonged exposure of the skin to allyl bromide may result in toxic amounts of the material being absorbed. It is heavier than water and slightly soluble in water.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

ALLYL CHLORIDE**4907412****FLAMMABLE LIQUID, POISONOUS****UN1100****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)**

Allyl chloride is a clear colorless liquid with an unpleasant pungent odor. It has a flash point of -20 deg. F. Vapor is irritating to skin, eyes and mucous membranes. Prolonged exposure to the liquid or vapor can result in death by inhalation or skin absorption. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

It weighs 7.8 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
- Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
- Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Combustion products include corrosive or toxic vapors

ALLYL CHLOROFORMATE (OR) ALLYL CHLOROCARBONATE**4907607****FLAMMABLE LIQUID, CORROSIVE****UN1722**

Allyl chloroformate is a colorless liquid with a pungent odor. It has a flash point of 88 deg. F. It is corrosive to metals and tissue. It is decomposed by water to give hydrochloric acid, a corrosive material, with evolution of heat. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use "alcohol" foam, carbon dioxide or dry chemical
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

ALLYL TRICHLOROSILANE 4934205
CORROSIVE MATERIAL, ACIDIC, FLAMMABLE UN1724
Allyl trichlorosilane is a colorless liquid with a pungent odor. It is flammable and has a flash point of 95 deg. F. It is readily decomposed by moisture or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire
Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

ALUMINUM ALKYL 4906011
FLAMMABLE LIQUID UN2845
Aluminum alkyl is a clear colorless liquid. It is used to make other chemicals. It ignites spontaneously on contact with air. It reacts violently with water and most chemicals.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Do not use water
Use graphite, soda ash or powdered sodium chloride

If material not on fire and not involved in fire
Do not use water
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry
Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

ALUMINUM BROMIDE, ANHYDROUS, SOLID 4932301
CORROSIVE MATERIAL, ACIDIC UN1725
Aluminum bromide, anhydrous solid is a white to yellowish-red lumpy solid with a pungent odor. It reacts with water to form hydrobromic acid and aluminum hydroxide with release of heat. It is corrosive to metals and tissue.

If material involved in fire
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors

If material not involved in fire
Keep material out of water sources and sewers
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

ALUMINUM CHLORIDE, DRY (CORROSIVE SOLID, N.O.S.) 4932302
CORROSIVE MATERIAL, ACIDIC UN1759
Aluminum chloride, dry is a white to grey powder with a pungent odor. It reacts with water to form hydrochloric acid and aluminum hydroxide with release of heat. It is corrosive to tissue.

If material involved in fire
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors

If material not involved in fire
Keep material out of water sources and sewers
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Continued on next page

Personnel protection

- Avoid breathing vapors
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

ALUMINUM HYDRIDE 4916403
FLAMMABLE SOLID UN2463
WATER REACTIVE

Aluminum hydride is a colorless to white solid. It reacts with water to form aluminum hydroxide and hydrogen, a flammable gas. The heat of this reaction may be sufficient to ignite the hydrogen. Prolonged exposure of aluminum hydride to heat may result in its spontaneous decomposition. It may react violently with oxidizers.

If material on fire or involved in fire

- Do not use water
- Use graphite, soda ash or powdered sodium chloride

If material not on fire and not involved in fire

- Do not use water
- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep material dry

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALUMINUM LIQUID (OR PAINT) 4910101
FLAMMABLE LIQUID UN1263

Aluminum liquid or paint is a silvery colored liquid. It has a flash point of less than 100 deg. F. It is generally insoluble in water and its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ALUMINUM METALLIC POWDER (POWDER, NEC, ALUMINUM) 4916708
FLAMMABLE SOLID UN1396

Aluminum, metallic powder is a light grey or silvery colored powdered metal. It is easily ignited and burns with an intense flame.

If material on fire or involved in fire

- Do not use water
- Use suitable dry powder

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Do not attempt to sweep up dry material

Personnel protection

- Wear boots, protective gloves, and goggles
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Avoid breathing dusts

ALUMINUM NITRATE 4918701
OXIDIZER UN1438

Aluminum nitrate is a white crystalline solid, it is used in petroleum refining, in dyeing, in leather tanning, and for many other uses. It absorbs moisture from the air and dissolves in it. The material is soluble in water. It is non combustible but it will accelerate the burning of combustible materials. If large quantities are involved or the combustible material is finely divided an explosion may result. Prolonged exposure of the material to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 2500 feet

ALUMINUM PHOSPHATE SOLUTION 4932304
CORROSIVE MATERIAL, ACIDIC NA1760

Aluminum phosphate solution is the crystalline solid dissolved in phosphoric acid. Aluminum phosphate itself is insoluble in water. It is corrosive to metals and tissue.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

MCD 000016947

ALUMINUM PHOSPHIDE 4916305
FLAMMABLE SOLID, POISONOUS UN1397
WATER REACTIVE

Aluminum phosphide is a dark grey or dry yellow crystalline solid. It reacts with moisture to give phosphine, a flammable poisonous gas. Normally the phosphine will spontaneously ignite in contact with air. If there is an excess of water, this fire of phosphine will not normally ignite surrounding combustible material.

If material on fire or involved in fire

- Do not use water
- Use dry chemical or carbon dioxide

If material not on fire and not involved in fire

- Do not use water
- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep material dry

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

ALUMINUM SULFATE 4963303
ORM-E NA9078
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Aluminum sulfate is a white crystalline solid. It is used in paper making, in fire-fighting foams, in sewage treatment and water purification, and for many other uses. It is soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ALUMINUM SULFATE SOLUTION 4944165
ORM-B NA1760
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Aluminum sulfate solution is the white crystalline solid dissolved in water. It is used in paper making, in fire fighting foams, as a fire proofing agent, in sewage treatment and water purification, and for many other uses. It is non-combustible. It is corrosive to aluminum.

It weighs 10.9 pounds per gallon.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ALUMINUM SULPHATE FLUOSULPHATE MIXTURE, 4963304
FLUORINE CONTENT NOT TO EXCEED 25%
(ALUMINUM SULFATE)

ORM-E NA9078
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Aluminum sulphate fluosulphate mixture is a white solid. It is soluble in water.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ALUMINUM SULPHATE, NOT MORE THAN 5% 4963305
ACTIVATED CARBON (ALUMINUM SULFATE)

ORM-E NA9078
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Aluminum sulphate, not more than 5% activated carbon is a light grey solid. It is used to make ethane. Only the aluminum sulphate is soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Continued on next page

MCD 000016948

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ALUMINUM, METALLIC, POWDER (POWDERS, ALUMINUM) **4916707**
FLAMMABLE SOLID **UN1396**
 Aluminum, metallic, powder is a light grey or silvery colored powdered metal. It is easily ignited and burns with an intense flame.

If material on fire or involved in fire
 Do not use water
 Use suitable dry powder

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Do not attempt to sweep up dry material

Personnel protection
 Wear boots, protective gloves, and goggles
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Avoid breathing dusts

2-(2-AMINOETHOXY) ETHANOL **4935605**
CORROSIVE MATERIAL, BASIC **NA1760**
 2-(2-aminoethoxy) ethanol is colorless liquid with a faint fish like odor. It may burn though it may require some effort to ignite. It is soluble in water. It is corrosive to metals and tissue. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Solid streams of water may be ineffective
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

N-AMINOETHYL PIPERAZINE **4935610**
CORROSIVE MATERIAL, BASIC, COMBUSTIBLE **UN2815**
 N-aminoethyl piperazine is a colorless liquid with a faint fish-like odor. It is combustible and has a flash point of 199 deg. F. It is soluble in water. It is corrosive to metals and tissue. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Solid streams of water may be ineffective
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

AMINOETHYLETHANOLAMINE (CORROSIVE LIQUID, N.O.S.) **4935674**
CORROSIVE MATERIAL **UN1760**
 Aminoethylethanolamine is a clear colorless liquid having an ammonia-like odor. It is used to make other chemicals. It is corrosive to metals and tissue, it will burn though it may require some effort to ignite. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Solid streams of water may be ineffective
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

N-AMINOPROPYL MORPHOLINE **4935620**
CORROSIVE MATERIAL, BASIC **NA1760**
 N-aminopropylmorpholine is a colorless liquid with a faint fish-like odor. It may burn though it may require some effort to ignite. It is soluble in water, it is corrosive to metals and tissue. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**BIS-(AMINOPROPYL) PIPERAZINE
CORROSIVE MATERIAL, BASIC**

**4935625
NA1760**

Bis-(aminopropyl) piperazine is a colorless liquid with a faint fish like odor. It solidifies at 59 deg. F. It may burn though it may require some effort to ignite. It is soluble in water. It is corrosive to metals and tissue. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**AMINOPROPYLDIETHANOL AMINE
CORROSIVE MATERIAL, BASIC**

**4935615
NA1760**

Aminopropyldiethanol amine is a colorless liquid with a faint fishlike odor. It may burn though it may require some effort to ignite. It is soluble in water. It is corrosive to metals and tissue. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

AMMONIA SOLUTION (CONTAINING MORE THAN 44% AMMONIA)

NONFLAMMABLE GAS, CORROSIVE ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

UN2073

Ammonia solution is ammonia gas dissolved in water. It has the characteristic ammonia odor. The solution is corrosive to metals and tissue. Although ammonia is lighter than air, the vapors from a leak will initially hug the ground.

It weighs 7.3 pounds per gallon.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use water spray to absorb vapors

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and gas tight goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Evacuation

- If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with vinegar or other dilute acid

Environmental considerations—water spill

- Neutralize with dilute acid or removable strong acid
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

MCD 000016950

AMMONIACAL LIQUOR (COMPRESSED GAS, N.O.S.) 4904221
NONFLAMMABLE GAS, CORROSIVE UN1956

Ammoniacal liquor is the solution in water of various ammonium salts and ammonia gas. It has so much ammonia in it that there is pressure in excess of 40 psi at 70 deg. F. The solution is corrosive. Although ammonia is lighter than air, the vapors from a leak initially hug the ground.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use water spray to absorb vapors

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors

Keep upwind

Wear self-contained breathing apparatus

Avoid bodily contact with the material

Wear boots, protective gloves, and gas tight goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

If contact with the material anticipated, wear full protective clothing

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

AMMONIUM ACETATE 4966708
ORM-E NA9079

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ammonium acetate is a white crystalline solid. It is used in chemical analysis, in pharmaceuticals, in preserving foods, and for other uses. It is soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Personnel protection

Keep upwind

Wear boots, protective gloves, and goggles

Avoid breathing vapors or dusts

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material

Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Neutralize with dilute acid or removable strong acid

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMONIUM ARSENATE, SOLID 4923201
POISON B UN1546

Ammonium arsenate, solid is a white crystalline solid. It is soluble in water and toxic by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material

Keep upwind

Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

AMMONIUM BENZOATE 4966304
ORM-E NA9080

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ammonium benzoate is a white crystalline solid. It is used in medicine and as a food preservative. It is soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Personnel protection

Keep upwind

Wear boots, protective gloves, and goggles

Avoid breathing vapors or dusts

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material

Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Neutralize with dilute acid or removable strong acid

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMONIUM BICARBONATE 4966308
ORM-E NA9081

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ammonium bicarbonate is a white crystalline solid having the odor of ammonia. It is used to make other ammonium compounds, in food processing, and for other uses. It is soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Personnel protection

Keep upwind

Wear boots, protective gloves, and goggles

Avoid breathing vapors or dusts

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire
fighting water

Environmental considerations—water spill

Neutralize with dilute acid or removable strong acid

AMMONIUM BISULFITE SOLUTION

4932348

CORROSIVE MATERIAL

NA2693

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ammonium bisulfite solution is the white crystalline solid dissolved in water having an odor of burning sulfur. It is corrosive to metals and tissue.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involv-
ing this material
If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or
foamed concrete
Absorb bulk liquid with fly ash or cement powder
Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill

Add calcium hypochlorite
Neutralize with dilute acid or removable strong acid
If dissolved, apply activated carbon at ten times the spilled amount
in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of
pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

AMMONIUM BISULFITE, SOLID

4944142

ORM-B

NA2693

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ammonium bisulfite, solid is a colorless crystalline solid. It is used in the manufacture of other chemicals. It is soluble in water. It is non-combustible. It is corrosive to aluminum.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with
copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire
fighting water

Environmental considerations—water spill

Add calcium hypochlorite
Neutralize with dilute acid or removable strong acid
Adjust ph to neutral (ph-7)

AMMONIUM CARBAMATE

4941145

ORM-A

NA9083

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ammonium carbamate is a white crystalline solid. It is used as a fertilizer. It is soluble in water.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with
copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire
fighting water

Environmental considerations—water spill

Neutralize with dilute acid or removable strong acid

Environmental considerations—air spill

Apply water spray or mist to knock down vapors
Vapor knockdown water is corrosive or toxic and should be diked
for containment

AMMONIUM CARBONATE

4941149

ORM-A

NA9084

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ammonium carbonate is a colorless crystalline solid or a white powder with a strong odor of ammonia. It is used to make other ammonium compounds, in pharmaceuticals, in food processing, and for many other uses. It is non-combustible. It is soluble in water.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with
copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire
fighting water

Environmental considerations—water spill

Neutralize with dilute acid or removable strong acid

Environmental considerations—air spill

Apply water spray or mist to knock down vapors
Vapor knockdown water is corrosive or toxic and should be diked
for containment

AMMONIUM CHLORIDE 4966316
ORM-E NA9085
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
Ammonium chloride is a white crystalline solid. It is used to make other ammonium compounds, as a soldering flux, as a fertilizer, and for many other uses. It is soluble in water. It is non-combustible.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with dilute acid or removable strong acid

AMMONIUM CHROMATE 4963302
ORM-E NA9086
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Ammonium chromate is a yellow crystalline solid. It is used in dyeing, photography, chemical analysis, and as a corrosion inhibitor. It is soluble in water. It is non-combustible.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Add sodium bisulfite
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust pH to neutral (pH-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMONIUM CITRATE, DIBASIC 4966320
ORM-E NA9087
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
Ammonium citrate is a white granular solid. It is used in pharmaceuticals and in chemical analysis. It is soluble in water. It is non-combustible.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
v0 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
86 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with dilute acid or removable strong acid
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMONIUM DICHROMATE (AMMONIUM BICHROMATE) 4916701
FLAMMABLE SOLID, OXIDIZING UN1439
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Ammonium dichromate is a bright orange red crystalline solid. It is readily ignited and burns producing a voluminous green residue. If heated in a closed container, the container may rupture due to the decomposition of the material. It may also act as a strong oxidizing agent if mixed with or contaminated with combustible material. It is soluble in water.

If material on fire or involved in fire
Flood with water

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Add sodium bisulfite
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMONIUM FLUOBORATE 4944125
ORM-B NA9088
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
Ammonium fluoborate is a white solid. It is used in metal plating and finishing. It is corrosive to aluminum.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

AMMONIUM FLUORIDE**4944105****ORM-B****UN2505****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Ammonium fluoride is a white crystalline solid. It is used in chemical analysis, in brewing, and as a preservative for wood. It is soluble in water. It is non-combustible. It is corrosive to aluminum.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Adjust pH to neutral (pH-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMONIUM HYDROGEN FLUORIDE SOLUTION**4932307****CORROSIVE MATERIAL, ACIDIC****UN2817****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Ammonium hydrogen fluoride solution is the white crystalline solid dissolved in water. It is corrosive to metals and tissue.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

AMMONIUM HYDROGEN FLUORIDE, SOLID**4932303****CORROSIVE MATERIAL****UN1727****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Ammonium hydrogen fluoride, solid is a white crystalline solid. It is used to sterilize food processing equipment, in chemical analysis, for electroplating and for many other uses. It is soluble in water. It is corrosive to tissue.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Avoid breathing fumes from burning material
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMONIUM HYDROXIDE (CONTAINING LESS THAN 12% AMMONIA)**4940347****ORM-A****NA2672****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)**

Ammonium hydroxide is a colorless to milky colored liquid with an odor of ammonia. It is used in cleaning compounds, to make other chemicals, and for many other uses. It is non-combustible and soluble in water with release of heat. It is corrosive to aluminum.

It weighs 7.3 pounds per gallon.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Apply water from as far a distance as possible
- Use water spray to absorb vapors

Continued on next page

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
 Neutralize with vinegar or other dilute acid

Environmental considerations—water spill
 Neutralize with dilute acid or removable strong acid

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

AMMONIUM HYDROXIDE (CONTAINING NOT LESS THAN 12% BUT NOT MORE THAN 44% AMMONIA) 4935280

CORROSIVE MATERIAL ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000:454) NA2672

Ammonium hydroxide is a colorless to milky colored liquid with an odor of ammonia. It is used in cleaning compounds, to make other chemicals, and for many other uses. It is non-combustible and soluble in water with release of heat. It is corrosive to metals and tissue. It weighs 7.3 pounds per gallon.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Apply water from as far a distance as possible
 Use water spray to absorb vapors

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
 Neutralize with vinegar or other dilute acid

Environmental considerations—water spill
 Neutralize with dilute acid or removable strong acid

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

AMMONIUM NITRATE (NO ORGANIC COATING) OXIDIZER, THERMALLY UNSTABLE 4918311 UN1942

Ammonium nitrate is a white crystalline solid. It is used to make fertilizers and explosives, and as a nutrient in producing antibiotics and yeast. It is soluble in water. The material itself does not readily burn but will do so if contaminated by combustible material. It will accelerate the burning of combustible material. Toxic oxides of nitrogen are produced during combustion.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 5000 feet

AMMONIUM NITRATE (ORGANIC COATING) OXIDIZER 4918312 NA1942

THERMALLY UNSTABLE

Ammonium nitrate (organic coating) is a white crystalline solid. The individual pieces of the material are coated with some substance in order to make the material more free flowing. It is soluble in water. The material itself will not burn but will readily do so if contaminated by combustible material. It will accelerate the burning of combustible material. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 5000 feet

AMMONIUM NITRATE FERTILIZER (CONTAINING NO MORE THAN 0.2% CARBON) OXIDIZER 4918310 UN2067

THERMALLY UNSTABLE

Ammonium nitrate fertilizer is a greyish white solid in the form of prills. It is soluble in water. The material itself does not readily burn but will readily do so if contaminated by combustible material. It will accelerate the burning of combustible material. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Personnel protection
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
Approach fire with caution
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 5000 feet

AMMONIUM NITRATE MIXED FERTILIZER 4918705
OXIDIZER UN2069
Ammonium nitrate mixed fertilizer is a variable colored granular solid. The material is soluble in water. It is noncombustible but it will accelerate the burning of combustible materials. If large quantities of the material are involved in the fire or the combustible material is finely divided an explosion may result. Prolonged exposure of the material to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material.
If material on fire or involved in fire
Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Personnel protection
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
Approach fire with caution
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 2500 feet

AMMONIUM NITRATE-CARBONATE MIXTURE 4918734
OXIDIZER UN2068
Ammonium nitrate-carbonate is a greyish white granular solid. It is the mixture of ammonium nitrate and calcium carbonate, i.e. limestone. The ammonium nitrate is soluble in water; the calcium carbonate is not. The material itself is noncombustible, but it will accelerate the burning of combustible materials. Toxic oxides of nitrogen are produced in fires involving this material.
If material on fire or involved in fire
Flood with water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Personnel protection
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

AMMONIUM NITRATE-FUEL OIL MIXTURE 4902910
(CONTAINING ONLY PRILLED AMMONIUM NITRATE AND FUEL OIL)
BLASTING AGENT
Ammonium nitrate-fuel oil mixture is a brownish-black granular solid. It is used for blasting rock and in some types of mining. It will accelerate the burning of combustible materials. The ammonium nitrate is soluble in water. If large quantities of this material are involved in a fire, it may explode.
If material on fire or involved in fire
Low order explosive potential
Do not fight fires in a cargo of blasting agents
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

AMMONIUM NITRATE-PHOSPHATE 4918704
OXIDIZER UN2070
Ammonium nitrate-phosphate is a white granular solid. It is used as a fertilizer. It is soluble in water. It is noncombustible but it will accelerate the burning of combustible materials. If large quantities of the material are involved in the fire or the combustible material is finely divided an explosion may result. Prolonged exposure of the material to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material.
If material on fire or involved in fire
Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Personnel protection
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 2500 feet

AMMONIUM NITRATE, MAGNESIA AND PULP MIXTURE (OXIDIZING MATERIAL, N.O.S) **4918703**
OXIDIZER **UN1479**
 Ammonium nitrate, magnesia and pulp mixture is a white to light yellow granular solid. The material is soluble in water. It is non-combustible but it will accelerate the burning of combustible materials. If large quantities of the material are involved in the fire or the combustible material is finely divided an explosion may result. Prolonged exposure of the material to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material.

If material on fire or involved in fire

Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection

Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If fire becomes uncontrollable—evacuate for a radius of 2500 feet

AMMONIUM NITRATE, SODIUM NITRATE MIXTURE (OXIDIZING MATERIAL, N.O.S.) **4918702**
OXIDIZER **UN1479**
 Ammonium nitrate, sodium nitrate mixture is a white to light greyish granular solid. The material is soluble in water. It is non-combustible but it will accelerate the burning of combustible materials. If large quantities of the material are involved in the fire or the combustible material is finely divided an explosion may result. Prolonged exposure of the material to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material.

If material on fire or involved in fire

Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection

Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 Approach fire with caution

Evacuation

If fire becomes uncontrollable—evacuate for a radius of 2500 feet

AMMONIUM NITRATE, SOLUTION (CONTAINING NOT LESS THAN 15% WATER) **4918774**
OXIDIZER **UN2426**
 Ammonium nitrate solution is the white crystals dissolved in water. It is used to make fertilizers and explosives. Though the material itself is noncombustible it will accelerate the burning of combustible materials. Toxic oxides of nitrogen are produced in fires involving this material.

If material on fire or involved in fire

Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection

Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If fire becomes uncontrollable—evacuate for a radius of 2500 feet

AMMONIUM OXALATE **4940350**
ORM-A **NA2449**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
 Ammonium oxalate is a colorless crystalline solid. It is used as a reagent in chemical analysis, for rust and scale removal, and for many other uses. It is soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection

Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
 Adjust pH to neutral (pH-7)
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMONIUM PERCHLORATE **4901550**
CLASS A EXPLOSIVE

Ammonium perchlorate is a white crystalline solid. It is used in making certain solid rocket propellants. It is smaller than 15 micron size or larger sized material that has been dried of its water of crystallization. The material itself does not readily burn, but will do so if contaminated by combustible material. Fires involving ammonium perchlorate are a combustible material may result in an explosion.

If material on fire or involved in fire

Dangerously explosive
 Do not fight fires in a cargo of explosives
 Evacuate area and let burn

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
 Keep spilled material wet
 Wet spilled material before picking it up
 Do not attempt to sweep up dry material
 Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 5000 feet

AMMONIUM PERCHLORATE 4918320
OXIDIZER, THERMALLY UNSTABLE UN1442

Ammonium perchlorate is a white crystalline solid that is soluble in water. It is used to make rocket propellants, explosives and for other uses. Ammonium perchlorate that is smaller than 15 micron size or larger sized material that has been dried of its water of crystallization is classed as a class a explosive. The material itself does not readily burn, but will do so if contaminated by combustible material. Fires involving ammonium perchlorate and combustible material may result in an explosion. Prolonged exposure of ammonium perchlorate and/or its containers to heat or fire may result in an explosion.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 5000 feet

AMMONIUM PERMANGANATE 4918322
OXIDIZER, THERMALLY UNSTABLE NA9190

Ammonium permanganate is a violet brown or dark purple crystalline solid. It is soluble in water. The material itself does not burn. It accelerates the burning of combustible materials. Contamination by some combustible materials may result in spontaneous ignition. Prolonged exposure of ammonium permanganate and or its containers to fire or heat may result in an explosion.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 2500 feet

AMMONIUM PICRATE, WET (WITH 10% OR MORE WATER) 4917125
FLAMMABLE SOLID UN1310

Ammonium picrate, wet is a slurry or sludge of yellow crystals. Ammonium picrate dry is a high explosive. dry it is easily ignited and burns vigorously. If large quantities are involved an explosion may result. The wet material will burn, though it may require some effort to ignite. Toxic oxides of nitrogen are produced during combustion.

If material on fire or involved in fire

- Dangerously explosive
- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Do not attempt to sweep up dry material

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 5000 feet

AMMONIUM SILICOFLUORIDE 4944135
ORM-A UN2854
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Ammonium silicofluoride is a white crystalline solid. It is used as a disinfectant, in etching glass, metal casting, and electroplating. It is soluble in water. It is non-combustible. It is corrosive to aluminum.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

AMMONIUM SULFAMATE 4966732
ORM-E NA9089
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ammonium sulfamate is a white crystalline solid. It is used to flame-proof fabrics and papers, in weed or brush killing products, and for other uses. It is soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Add calcium hypochlorite
- Adjust ph to neutral (ph-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMONIUM SULFIDE SOLUTION
FLAMMABLE LIQUID UN2683
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ammonium sulfide solution is the yellow crystalline material dissolved in a liquid, usually water. It has the odor of rotten eggs. Ammonium sulfide is slowly decomposed by moisture giving off hydrogen sulfide, a flammable gas.

It weighs 9.0 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- Add calcium hypochlorite
- Adjust ph to neutral (ph-7)

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Evolves flammable hydrogen sulfide gas on contact with acids

AMMONIUM SULFITE 4966332
ORM-E NA9090
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ammonium sulfite is a colorless crystalline solid. It is used in the manufacture of other chemicals, in medicine, and photography. It is soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Add calcium hypochlorite
- Adjust ph to neutral (ph-7)

Environmental considerations—air spill

- Evolves flammable hydrogen sulfide gas on contact with acids

AMMONIUM TARTRATE 4966336
ORM-E NA9091
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ammonium tartrate is a white crystalline solid. It is used to manufacture fabrics and in medicine. It is soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Neutralize with dilute acid or removable strong acid
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMONIUM THIOCYANATE CRYSTALS (AMMONIUM THIOCYANATE) 4966738
ORM-E NA9092
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ammonium thiocyanate is a colorless crystalline solid. It is used in chemical analysis, in photography, as a fertilizer, and for many other uses. It is soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Neutralize with dilute acid or removable strong acid
- Add calcium hypochlorite
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMONIUM THIOCYANATE LIQUOR (AMMONIUM THIOCYANATE) 4966744
ORM-E NA9092
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ammonium thiocyanate liquor is the colorless crystalline solid dissolved in water. It is used to make other chemicals, fertilizer, and for many other uses. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 Neutralize with dilute acid or removable strong acid
 Add calcium hypochlorite
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMONIUM THIOSULFATE 4966750
ORM-E NA9093
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
 Ammonium thiosulfate is a white crystalline solid. It is used in photography, in chemical analysis, and for many other uses. It is soluble in water. It is non-combustible.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Neutralize with dilute acid or removable strong acid
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMONIUM THIOSULFATE SOLUTION (AMMONIUM THIOSULFATE) 4966756
ORM-E NA9093
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
 Ammonium thiosulfate solution is the white crystalline solid dissolved in water. It is used in photography and for many other uses. It is non-combustible.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 Neutralize with dilute acid or removable strong acid
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AMMUNITION FOR CANNON WITH EMPTY PROJECTILE 4902110
CLASS B EXPLOSIVE
 Ammunition for cannon with empty projectile is fixed ammunition which is an assembled unit consisting of the cartridge case containing the propelling charge and primer with empty projectiles. Under prolonged exposure to fire or heat the material can explode.

If material on fire or involved in fire
 Dangerously explosive
 Do not fight fires in a cargo of explosives
 Evacuate area and let burn

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

AMMUNITION FOR CANNON WITH EXPLOSIVE PROJECTILE 4901105
CLASS A EXPLOSIVE
 Ammunition for cannon with explosive projectile is fixed ammunition which is an assembled unit consisting of a cartridge case containing the propelling charge and primer and explosive projectile containing a high explosive. It may be shipped either fuzed or unfuzed. The fuzed ammunition may be sensitive to shock or mechanical impact. Under prolonged exposure to heat or fire it can explode.

If material on fire or involved in fire
 Dangerously explosive
 Do not fight fires in a cargo of explosives
 Evacuate area and let burn

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 5000 feet

AMMUNITION FOR CANNON WITH GAS PROJECTILE 4901110
CLASS A EXPLOSIVE
 Ammunition for cannon with gas projectile is fixed ammunition which is an assembled unit consisting of a cartridge case containing the propelling charge and primer, and a projectile containing a gas and a burster. It may be shipped either fuzed or unfuzed. The fuzed ammunition may be sensitive to shock or mechanical impact. Under prolonged exposure to fire or heat it can explode.

Continued on next page

If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

AMMUNITION FOR CANNON WITH ILLUMINATING PROJECTILE 4901115
CLASS A EXPLOSIVE
Ammunition for cannon with illuminating projectile is fixed ammunition which is an assembled unit consisting of a cartridge case containing the propelling charge and primer, and a projectile containing a pyrotechnic composition and burster. It may be either shipped fuzed or unfuzed. The fuzed ammunition may be sensitive to shock or mechanical impact. Under prolonged exposure to fire or heat it can explode.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

AMMUNITION FOR CANNON WITH INCENDIARY PROJECTILE 4901120
CLASS A EXPLOSIVE
Ammunition for cannon with incendiary projectile is fixed ammunition consisting of a cartridge case containing a propelling charge and a primer and a projectile containing a pyrotechnic composition and a burster. It may be shipped fuzed or unfuzed. The fuzed ammunition may be sensitive to shock or mechanical impact. Under prolonged exposure to heat or fire it can explode.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

AMMUNITION FOR CANNON WITH INERT LOADED PROJECTILE 4902120
CLASS B EXPLOSIVE
Ammunition for cannon with inert loaded projectile is fixed ammunition which is an assembled unit consisting of the cartridge case containing the propelling charge and primer with inert-loaded projectile. Under prolonged exposure to fire or heat the material can explode.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

AMMUNITION FOR CANNON WITH SMOKE PROJECTILE 4901125
CLASS A EXPLOSIVE
Ammunition for cannon with smoke projectile is fixed ammunition consisting of a cartridge case containing a propelling charge and primer, and a projectile containing a smoke producing composition and a burster. It may either be shipped fuzed or unfuzed. The fuzed ammunition may be sensitive to shock or mechanical impact. Under prolonged exposure to heat or fire it can explode.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

AMMUNITION FOR CANNON WITH SOLID PROJECTILE 4902130
CLASS B EXPLOSIVE
Ammunition for cannon with solid projectile is fixed ammunition which is an assembled unit consisting of the cartridge case containing the propelling charge and primer with solid projectile. Under prolonged exposure to fire or heat the material can explode.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

MCD 000016961

AMMUNITION FOR CANNON WITH TEAR GAS PROJECTILE 4902127
CLASS B EXPLOSIVE
Ammunition for cannon with tear gas projectile is fixed ammunition which is an assembled unit consisting of a cartridge case containing the propelling charge and primer, and a projectile containing the tear gas and a burster. It may be shipped either fuzeed or unfuzeed. The fuzeed ammunition may be sensitive to shock or mechanical impact. Under prolonged exposure to fire or heat it can explode and release tear gas.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

AMMUNITION FOR CANNON WITH TEAR GAS PROJECTILE 4901127
CLASS A EXPLOSIVE
Ammunition for cannon with tear gas projectile is fixed ammunition which is an assembled unit consisting of a cartridge case containing tear gas and a burster. It may be shipped either fuzeed or unfuzeed. The fuzeed ammunition may be sensitive to shock or mechanical impact. Under prolonged exposure to fire or heat it can explode and release tear gas.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

AMMUNITION FOR CANNON WITHOUT PROJECTILE 4902140
CLASS B EXPLOSIVE
Ammunition for cannon without projectile is fixed ammunition which is a unit consisting of the cartridge case containing the propelling charge and primer without projectile. Under prolonged exposure to fire or heat the material can explode.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

AMMUNITION FOR SMALL ARMS WITH EXPLOSIVE PROJECTILE 4901130
CLASS A EXPLOSIVE
Ammunition for small arms with explosive projectile is fixed ammunition of less than 20 mm which consists of a cartridge case containing a propelling charge and primer, and a projectile containing a high explosive. It may be shipped either fuzeed or unfuzeed. The fuzeed ammunition may be sensitive to shock or mechanical impact. Under prolonged exposure to fire it can explode.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

AMMUNITION FOR SMALL-ARMS WITH INCENDIARY PROJECTILE 4901135
CLASS A EXPLOSIVE
Ammunition for small-arms with incendiary projectile is fixed ammunition of less than 20mm consisting of a cartridge case containing a propelling charge and primer, and a projectile containing a pyrotechnic charge. It may be either shipped fuzeed or unfuzeed. The fuzeed ammunition may be sensitive to shock or mechanical impact. Under prolonged exposure to heat or fire it can explode.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

AMMUNITION, CHEMICAL, EXPLOSIVE, WITH IRRITANT 4901167
CLASS A EXPLOSIVE
Ammunition, chemical, explosive, with irritant may be any type of projectile, bomb, grenade, etc. It contains a material classified as an irritant and a burster. Under prolonged exposure to heat or fire it can explode. The irritant causes discomforting effects such as tearing of the eyes or a choking sensation of the respiratory system from inhalation or contact with small quantities. The irritant may or may not be combustible.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

Continued on next page

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 5000 feet

**AMMUNITION, CHEMICAL, EXPLOSIVE, WITH POISON 4901165
A MATERIAL****CLASS A EXPLOSIVE**

Ammunition, chemical, explosive, with poison a material may be any type of projectile bomb, grenade, etc. It contains a material classified as poison a and a burster. Under prolonged exposure to heat or fire it can explode. The poison a material may cause death by inhalation or skin absorption of very small quantities. The poison a material may or may not be combustible.

If material on fire or involved in fire

Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 5000 feet

**AMMUNITION, CHEMICAL, EXPLOSIVE, WITH POISON 4901166
B MATERIAL****CLASS A EXPLOSIVE**

Ammunition, chemical, explosive, with poison b material may be any type of projectile, bomb, grenade, etc. It contains a material classified as poison b and a burster. Under prolonged exposure to heat or fire it can explode. The poison b material may cause death by inhalation, skin absorption, or ingestion of small quantities. The poison b material may not be combustible.

If material on fire or involved in fire

Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 5000 feet

**AMYL ACETATE 4909111
FLAMMABLE LIQUID UN1104
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)**

Amyl acetate is a clear colorless liquid having a banana like odor. The flash point may vary from 65 deg. F. to 95 deg. F. It is lighter than water and slightly soluble in water. The vapors are heavier than air. It weighs 7.2 pounds per gallon.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors

Keep upwind

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill

Use natural barriers or oil spill control booms to limit spill motion

Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material

Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Remove trapped material with suction hoses

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

AMYL ACID PHOSPHATE 4933360**CORROSIVE MATERIAL UN2819**

Amyl acid phosphate is a colorless liquid. It is used as a curing agent in paints and plastics and is used in the manufacture of synthetic fibers. It will burn though it may take some effort to ignite. It is heavier than water and is insoluble in water. It is corrosive to metals and tissue. Its vapors are heavier than air.

If material on fire or involved in fire

Use dry chemical, carbon dioxide, or dry sand

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Do not use water on material itself

If large quantities of combustibles are involved, use water in flooding quantities as spray and fog

Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Do not use water on material itself

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

TERT-AMYL ALCOHOL (ALCOHOL, N.O.S.) 4909112
FLAMMABLE LIQUID UN1987
Tert-amyl alcohol is a clear colorless liquid with a camphor like odor. It has a flash point of 67 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

N-SEC-AMYL ALCOHOL (ALCOHOL, N.O.S.) 4909107
FLAMMABLE LIQUID UN1987

N-sec-amyl alcohol is a clear colorless liquid. It has a flash point of 94 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

AMYL CHLORIDE 4909115
FLAMMABLE LIQUID UN1107

Amyl chloride is a clear, colorless liquid. The flash point may vary from 35 deg. F. to 54 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

AMYL FORMATE 4909310
FLAMMABLE LIQUID UN1109

Amyl formate is a clear colorless liquid with a plum like odor. It has a flash point of 79 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

AMYL MERCAPTAN 4909119
FLAMMABLE LIQUID UN1111

Amyl mercaptan is a clear, colorless to light yellow liquid with an offensive odor. It has a flash point of 65 deg. F. It is lighter than water and insoluble in water. Its vapors are lighter than water.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

AMYL NITRATE (COMBUSTIBLE LIQUID, N.O.S.) 4913107
COMBUSTIBLE LIQUID, OXIDIZING NA1993

Amyl nitrate is a clear colorless liquid with an ether-like odor. It is used as an additive for diesel fuels. It has a flash point of 118 deg. F. It will accelerate the burning of combustible materials. It weighs about the same as water and is insoluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

AMYL NITRITE 4909121
FLAMMABLE LIQUID UN1113

Amyl nitrite is a clear colorless to yellowish liquid with an ethereal, fruity odor. It is used in medicine and to make other chemicals. It has a flash point of 50 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

TERT-AMYL PEROXY-2-ETHYLHEXANOATE, 4919108
(TECHNICALLY PURE)
ORGANIC PEROXIDE UN2898

Tert-amyl peroxy-2-ethylhexanoate, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

AMYL PHENOL (CORROSIVE LIQUID, N.O.S.) 4935627
CORROSIVE MATERIAL, BASIC UN1760

Amyl phenol is a colorless to straw colored liquid. It is slightly soluble in water. It may burn though it may require some effort to ignite. It is corrosive to tissue.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Solid streams of water may be ineffective
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

AMYL TRICHLOROSILANE 4934210
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN1728

Amyl trichlorosilane is a colorless to yellow liquid with a pungent odor. It is combustible and has a flash point of 145 deg. F. It is readily decomposed by water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

AMYLAMINE 4909195
FLAMMABLE LIQUID UN1106

Amylamine is a clear colorless liquid with an ammonia-like odor. It is used as a corrosion inhibitor, solvent, flotation agent and in the manufacture of additional chemicals. It has a flash point of 30 deg. F. It is irritating to the eyes and respiratory system. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

AMYLENE 4908108
FLAMMABLE LIQUID UN1108

Amylenes are clear colorless liquids with a petroleum-like odor. They are volatile liquids having flash points of below 0 deg. F. They are lighter than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

ANHYDROUS AMMONIA 4904210
NONFLAMMABLE GAS, CORROSIVE UN1005
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)

Anhydrous ammonia is a clear colorless gas with a characteristic odor. It is used as a fertilizer, as a refrigerant, and in the manufacture of other chemicals. Although it is classed as a nonflammable gas, it will burn within certain vapor concentration limits, and the fire hazard will increase in the presence of oil or other combustible materials. Its "combustibility" is definitely not a common problem in the event of leakage. It is shipped as a liquid under pressure. Contact with the liquid can cause frostbite. It is soluble in water forming a corrosive liquid. Although ammonia is lighter than air, the vapors from a leak initially hug the ground.

It weighs 5.7 pounds per gallon.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use water spray to absorb vapors

If material not involved in fire

- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and gas tight goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Evacuation

- If material leaking (not on fire), downwind evacuation must be considered

Continued on next page

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Neutralize with vinegar or other dilute acid

Environmental considerations—water spill

Neutralize with dilute acid or removable strong acid

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

Vapor knockdown water is corrosive or toxic and should be diked for containment

ANILINE OIL, LIQUID

4921410

POISON B, COMBUSTIBLE

UN1547

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Aniline oil, liquid is a colorless to brown oily liquid with a characteristic odor. It is used to manufacture other chemicals, especially dyes, photographic chemicals, agricultural chemicals and others. It has a flash point of 158 deg. F. It can react with toluene diisocyanate with the reaction leading to possible ignition. It is heavier than water and slightly soluble in water and its vapors are heavier than air. It is toxic by skin absorption and inhalation. Toxic oxides of nitrogen are produced during combustion of this material.

It weighs 8.5 pounds per gallon.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors

Keep upwind

Wear self-contained breathing apparatus

Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Remove trapped material with suction hoses

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

Combustion products include corrosive or toxic vapors

ANILINE OIL, LIQUID (ANILINE SLUDGE FOR FURNACE USE)

4921492

POISON B

UN1547

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Aniline sludge is a thick brown liquid with a characteristic odor. It is combustible though it may require some effort to ignite. It is very slightly soluble in water. It is toxic by inhalation and by skin absorption.

It weighs 8.5 pounds per gallon.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use foam, carbon dioxide or dry chemical

Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors

Keep upwind

Wear self-contained breathing apparatus

Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Remove trapped material with suction hoses

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

ANIMAL OR POULTRY DIP, NEC, LIQUID (POISONOUS LIQUID, N.O.S.)

4923905

POISON B

NA2810

Animal or poultry dip, nec liquid is variable colored liquid. It is soluble in water and is toxic by ingestion.

If material on fire or involved in fire

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

ANIMAL OR POULTRY DIP, NEC, OTHER THAN LIQUID (POISONOUS SOLID, N.O.S.) 4923906

POISON B NA2811

Animal or poultry dip, nec, other than liquid is a variable colored solid. It is soluble in water. It is toxic by ingestion, and by inhalation of dusts.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

ANIMAL OR POULTRY FEED CHARCOAL, CRUSHED OR GROUND, (FLAMMABLE SOLID, N.O.S.) 4917386

FLAMMABLE SOLID UN1325

Animal or poultry feed charcoal, crushed or ground is a granular black solid. It is fairly easily ignited. The main hazard in transportation is that of spontaneous heating if the charcoal has not been properly cooled after manufacture or if it becomes wet.

If material on fire or involved in fire

- Remove burning material from load if safe and practicable to do so
- Use dry chemical or carbon dioxide
- Use water only if flooding quantities are available

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material dry

ANISOYL CHLORIDE 4931710

CORROSIVE MATERIAL, ACIDIC UN1729

Anisoyl chloride is an amber colored crystalline solid becoming a liquid at 72 deg. F. The liquid fumes in air. It is decomposed by water to give hydrochloric acid and insoluble anisic acid with release of heat. It is corrosive to metals and skin.

If material on fire or involved in fire

- Use dry chemical or carbon dioxide
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

ANTI-FREEZE ALCOHOLS (ALCOHOL, N.O.S.) 4910402

FLAMMABLE LIQUID UN1987

Anti-freeze alcohols are materials containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ANTI-FREEZE ALCOHOLS (ALCOHOL, N.O.S.) 4915402

COMBUSTIBLE LIQUID UN1987

Anti-freeze alcohols are materials containing a solvent having a closed cup flash point between 100 and 199 deg. F. They are generally lighter than water and soluble in water.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to disperse vapors and dilute standing pools of liquid

Continued on next page

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ANTI-FREEZE COMPOUND, LIQUID 4910105
FLAMMABLE LIQUID NA1142

Anti-freeze compounds, liquid have flash points of less than 100 deg. F. They are water soluble and their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ANTI-FREEZE PREPARATION, LIQUID 4910106
FLAMMABLE LIQUID NA1142

Anti-freeze preparation, liquid have flash points of less than 100 deg. F. It is soluble in water.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ANTIFREEZE COMPOUND LIQUID 4915105
COMBUSTIBLE LIQUID NA1142

Anti-freeze compounds, liquid which are classed as combustible liquid have flash points between 100 and 199 deg. F. They are soluble in water and their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog

- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ANTIFREEZE PREPARATION, LIQUID 4915106
COMBUSTIBLE LIQUID NA1142

Anti-freeze preparation, liquid which are classed as combustible liquid have flash points between 100 and 199 deg. F. It is soluble in water and its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ANTIMONIOUS CHLORIDE (See ANTIMONY TRICHLORIDE 4932316)

ANTIMONY PENTACHLORIDE 4932310
CORROSIVE MATERIAL, ACIDIC UN1730
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Antimony pentachloride is a reddish-yellow fuming liquid with a pungent odor, it is used to make other chemicals, and in chemical analysis. Its fumes are irritating to the eyes and mucous membranes. It is decomposed by water to hydrochloric acid with release of heat. It solidifies at 37 deg. F. It is corrosive to metals and tissue.

If material involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Add caustic soda
- If dissolved, apply sodium sulfide solution to precipitate heavy metals
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
- Add soda ash
- Allow to aerate

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

ANTIMONY PENTACHLORIDE SOLUTION 4932312
CORROSIVE MATERIAL, ACIDIC UN1731
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Antimony pentachloride solution is a reddish-yellow solution of antimony pentachloride in hydrochloric acid. It has a pungent odor and its fumes are irritating to the eyes and mucous membranes. It is decomposed by water into more hydrochloric acid with release of heat. It is corrosive to metals and tissue.

If material involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Add caustic soda
- If dissolved, apply sodium sulfide solution to precipitate heavy metals
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
- Add soda ash
- Allow to aerate

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

ANTIMONY PENTAFLUORIDE 4932005
CORROSIVE MATERIAL, ACIDIC, POISONOUS UN1732

Antimony pentafluoride is a colorless oily liquid. It is used to make other chemicals and as a catalyst in the manufacture of other chemicals. It is decomposed by water to hydrofluoric acid and other materials with release of heat. Its fumes are irritating to the eyes and mucous membranes. It is corrosive to metals and tissue. Hydrofluoric acid causes severe painful skin burns. The material may only be shipped in cylinders. Prolonged exposure of the cylinders to fire or heat may result in their violent rupturing and rocketing.

If material involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

ANTIMONY POTASSIUM TARTRATE SOLID 4941114
ORM-A UN1551
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Antimony potassium tartrate solid is a colorless crystalline solid or a white powder. It is used in textile and leather processing and as an insecticide. It is soluble in water.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Continued on next page

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Add caustic soda
- If dissolved, apply sodium sulfide solution to precipitate heavy metals
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
- Adjust ph to neutral (ph-7)
- Allow to aerate

ANTIMONY TRIBROMIDE, SOLID

4932319

CORROSIVE MATERIAL

NA1549

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Antimony tribromide, solid is the yellow crystalline solid. It is used to make other antimony compounds, in chemical analysis, and in dyeing. It is decomposed by water giving an antimony oxide and hydrobromic acid. It is corrosive to tissue.

If material involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Add caustic soda
- If dissolved, apply sodium sulfide solution to precipitate heavy metals
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
- Add soda ash
- Allow to aerate

ANTIMONY TRIBROMIDE, SOLUTION

4932317

CORROSIVE MATERIAL

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Antimony tribromide, solution is the yellow crystalline solid dissolved in hydrobromic acid. It is used to make other antimony compounds, in chemical analysis, and in dyeing. It is decomposed by water giving an antimony oxide and hydrobromic acid. It is corrosive to metals and tissue.

If material involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Avoid breathing dusts

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Add caustic soda
- If dissolved, apply sodium sulfide solution to precipitate heavy metals
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
- Add soda ash
- Allow to aerate

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

ANTIMONY TRICHLORIDE SOLUTION

4932318

CORROSIVE MATERIAL, ACIDIC

UN1733

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Antimony trichloride solution is a colorless liquid with a pungent odor. The solution is antimony trichloride dissolved in hydrochloric acid. The antimony trichloride is decomposed by water to hydrochloric acid and antimony oxychloride with release of heat. (the antimony oxychloride is soluble in hydrochloric acid and insoluble in water). The solution is corrosive to metals and tissue.

If material involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill
 Add caustic soda
 If dissolved, apply sodium sulfide solution to precipitate heavy metals
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
 Add soda ash
 Allow to aerate

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Vapor knockdown water is corrosive or toxic and should be diked for containment

ANTIMONY TRICHLORIDE, SOLID **4932316**
CORROSIVE MATERIAL, ACIDIC **UN1733**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
 Antimony trichloride, solid is a colorless crystalline mass. It is decomposed by water to hydrochloric acid and antimony oxychloride. -antimony oxychloride is soluble in hydrochloric acid but insoluble in water). It is corrosive to metals and tissue.

If material involved in fire
 Use dry chemical, carbon dioxide, or dry sand
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
 Use water spray to absorb vapors
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not involved in fire
 Keep material out of water sources and sewers
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill
 Add caustic soda
 If dissolved, apply sodium sulfide solution to precipitate heavy metals
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
 Add soda ash
 Allow to aerate

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Vapor knockdown water is corrosive or toxic and should be diked for containment

ANTIMONY TRIFLUORIDE SOLUTION **4932305**
CORROSIVE MATERIAL **NA1549**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
 Antimony trifluoride solution is the white to grey crystalline solid dissolved in water. It is used in ceramics and to make other chemicals. It is corrosive to metals and tissue.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
 Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill
 Add caustic soda
 If dissolved, apply sodium sulfide solution to precipitate heavy metals
 Adjust ph to neutral (ph-7)
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Vapor knockdown water is corrosive or toxic and should be diked for containment

MCD 000016972

ANTIMONY TRIFLUORIDE, SOLID 4932335
CORROSIVE MATERIAL NA1549
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Antimony trifluoride, solid is a white to grey crystalline solid. It is used in ceramics and to make other chemicals. It is corrosive to tissue.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material

Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

Add caustic soda

If dissolved, apply sodium sulfide solution to precipitate heavy metals

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Add soda ash

Allow to aerate

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

Vapor knockdown water is corrosive or toxic and should be diked for containment

ANTIMONY TRIOXIDE (ANTIMONY OXIDE) 4966905
ORM-E NA9201
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Antimony trioxide is a white crystalline solid. It is used to fireproof fabrics, paper and plastics, as a paint pigment and for many other uses. It is insoluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Personnel protection

Keep upwind

Wear boots, protective gloves, and goggles

Avoid breathing vapors or dusts

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material

Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Add caustic soda

If dissolved, apply sodium sulfide solution to precipitate heavy metals

Add soda ash

Allow to aerate

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AQUA AMMONIA SOLUTION (CONTAINING 44% OR LESS AMMONIA) (See AMMONIUM HYDROXIDE 4935280)

ARGON 4904502
NONFLAMMABLE GAS UN1006

Argon is a colorless odorless noncombustible gas. It is heavier than air and can asphyxiate by displacement of air. It may be shipped in cylinders or special tank cars.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Attempt to stop leak if without hazard

Personnel protection

Avoid breathing vapors

Keep upwind

Wear protective gloves and goggles

Do not handle broken packages without protective equipment

ARGON—OXYGEN GAS MIXTURE (COMPRESSED GAS, N.O.S.) 4904410
NONFLAMMABLE GAS UN1956

Argon—oxygen gas mixture is a colorless odorless gas. Both argon and oxygen are noncombustible; however, oxygen can accelerate the burning of a fire. It may only be shipped in cylinders.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Keep sparks, flames, and other sources of ignition away

Attempt to stop leak if without hazard

Personnel protection

Wear protective gloves and goggles

Do not handle broken packages without protective equipment

Approach fire with caution

ARGON PRESSURIZED LIQUID 4904503
NONFLAMMABLE GAS UN1951

Argon pressurized liquid is a colorless noncombustible liquid. Contact with the liquid will cause frostbite. The gas is heavier than air and can asphyxiate by displacement of air. It may only be shipped in cylinders.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

Cool all affected containers with flooding quantities of water

Do not use water on material itself

Apply water from as far a distance as possible

If material not involved in fire

Attempt to stop leak if without hazard

Do not use water on material itself

Personnel protection

Avoid breathing vapors

Keep upwind

Wear protective gloves and goggles

Do not handle broken packages without protective equipment

ARGON-CARBON DIOXIDE GAS MIXTURE (COMPRESSED GAS, N.O.S.) 4904504
NONFLAMMABLE GAS UN1956
Argon-carbon dioxide gas mixture is a colorless odorless gas. Both argon and carbon dioxide are noncombustible. The mixture can asphyxiate by the displacement of air. It may only be shipped in cylinders.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Attempt to stop leak if without hazard
Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

ARGON-HYDROGEN GAS MIXTURE (COMPRESSED GAS, N.O.S.) 4905805
FLAMMABLE GAS UN1954
Argon-hydrogen gas mixture is a colorless odorless gas. It is easily ignited. It may only be shipped in cylinders. Argon is nonflammable and heavier than air; hydrogen is flammable and lighter than air. A flame may flash back to the source of leak very easily. It may asphyxiate by the displacement of air. Under fire conditions cylinders may violently rupture and rocket.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution
Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

ARGON-HYDROGEN GAS MIXTURE (COMPRESSED GAS, N.O.S.) 4904505
NONFLAMMABLE GAS UN1956
Argon-hydrogen gas mixture is a colorless odorless gas. Argon is noncombustible whereas hydrogen is a flammable gas. The mixture can separate with the hydrogen rising in the air. The mixture can asphyxiate by the displacement of air. It may only be shipped in cylinders.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Attempt to stop leak if without hazard
Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

ARGON-METHANE GAS MIXTURE (COMPRESSED GAS, N.O.S.) 4905810
FLAMMABLE GAS UN1954
Argon-methane gas mixture is a colorless odorless gas. It is easily ignited and may only be shipped in cylinders. Argon is noncombustible and heavier than air, methane is flammable and lighter than air. A flame can flash back to the source of leak very easily. It may asphyxiate by the displacement of air. Under fire conditions cylinders may violently rupture and rocket.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution
Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

ARGON-METHANE GAS MIXTURE (COMPRESSED GAS, N.O.S.) 4904506
NONFLAMMABLE GAS UN1956
Argon-methane gas mixture is an odorless colorless gas. Argon is noncombustible; methane is a flammable gas. Argon is heavier than air. Methane is lighter than air. The mixture can separate into its two components. It can asphyxiate by the displacement of air. It may only be shipped in cylinders.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Attempt to stop leak if without hazard
Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

ARGON-NITROGEN GAS MIXTURE (COMPRESSED GAS, N.O.S.) 4904507
NONFLAMMABLE GAS UN1956
Argon-nitrogen gas mixture is a colorless odorless gas. Both argon and nitrogen are noncombustible. The mixture can asphyxiate by the displacement of air. It may only be shipped in cylinders.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Attempt to stop leak if without hazard

Continued on next page

MCD 000016974

Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

AROMATIC CONCENTRATES, SUITABLE ONLY FOR FURTHER PROCESSING (COMBUSTIBLE LIQUID, N.O.S.) 4915490
COMBUSTIBLE LIQUID NA1993
Aromatic concentrates suitable only for further processing are materials having a closed cup flash point between 100 and 199 deg. F. The hazard of these materials is combustibility.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

AROMATIC CONCENTRATES, SUITABLE ONLY FOR FURTHER PROCESSING (FLAMMABLE LIQUID, N.O.S.) 4910490
FLAMMABLE LIQUID UN1993
Aromatic concentrates suitable only for further processing are materials having a closed cup flash point of less than 100 deg. F. The hazard of these materials is flammability.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ARSENIC ACID SOLUTION (ARSENIC ACID OTHER THAN FUSED) 4923105
POISON B CORROSIVE UN1554
Arsenic acid solution is a clear colorless liquid. It is soluble in water and non combustible. It is corrosive to metals and is toxic by ingestion.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

ARSENIC ACID, SOLID (ARSENIC ACID FUSED) 4923106
POISON B, CORROSIVE UN1553
Arsenic acid, solid is a white crystalline solid. It is soluble in water and non combustible. It is corrosive to metals in the presence of moisture and is toxic by ingestion.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire
Keep material out of water sources and sewers
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

ARSENIC BROMIDE, SOLID 4923202
POISON B UN1555
Arsenic bromide, solid is a yellowish white crystalline solid melting at 90 deg. F. It absorbs moisture from the air. It is decomposed by water to form arsenic acid and hydrobromic acid, a corrosive material. It is toxic by inhalation and ingestion.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors

If material not involved in fire
Keep material out of water sources and sewers
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

**ARSENIC CHLORIDE, LIQUID
POISON B****4923203
UN1560**

Arsenic chloride is a colorless to yellow oily fuming liquid. It is used to make other arsenic containing compounds. It is decomposed by water to give arsenic acid and hydrochloric acid, a corrosive material. It is irritating to the skin eyes and mucous membranes. It is toxic by inhalation and ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors

If material not involved in fire

Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

**ARSENIC DISULFIDE (See ARSENIC SULFIDE
4923208)****ARSENIC IODIDE, SOLID
POISON B****4923205
NA1557**

Arsenic iodide is an orange-red crystalline solid. It is used in medicine and in chemical analysis. It is decomposed by water to form arsenic acid and hydriodic acid, a corrosive material. It is toxic by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors

If material not involved in fire

Use water spray to knock-down vapors
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

**ARSENIC PENTOXIDE, SOLID
POISON B, CORROSIVE****4923112
UN1559****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Arsenic pentoxide, solid is a white crystalline solid. It is soluble in water to form arsenic acid. It is corrosive to metals in the presence of moisture and is non combustible. It is toxic by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Add ferric chloride (fcl3)
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**ARSENIC SULFIDE, SOLID
POISON B****4923208
NA1557****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Arsenic sulfide is a yellow or red crystalline solid or powder. It is insoluble in water and it is combustible. It is toxic by inhalation (dust) and by ingestion.

If material on fire or involved in fire

Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

Continued on next page

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ARSENIC TRICHLORIDE**4923209****POISON B****UN1560****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Arsenic trichloride is a colorless to yellow oily fuming liquid. It is decomposed by water to give arsenic acid and hydrochloric acid, a corrosive material. It is irritating to the skin eyes and mucous membranes. It is toxic by inhalation and ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

Do not use water on material itself

If large quantities of combustibles are involved, use water in flooding quantities as spray and fog

Use water spray to absorb vapors

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Use water spray to knock-down vapors

Do not use water on material itself

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors

Keep upwind

Wear self-contained breathing apparatus

Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

Adjust ph to neutral (ph-7)

Add calcium hypochlorite

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Add ferric chloride (feci3)

Adjust ph to neutral (ph-7)

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

Vapor knockdown water is corrosive or toxic and should be diked for containment

ARSENIC TRIOXIDE, SOLID (ARSENIC, WHITE, SOLID ARSENOUS ACID, SOLID)**4923115****POISON B, CORROSIVE****UN1561****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Arsenic trioxide, solid is a white amorphous powder. It is slightly soluble in water and is non combustible. It is corrosive to metals in the presence of moisture and is toxic by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing dusts, and fumes from burning material

Keep upwind

Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Add calcium hypochlorite

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Add ferric chloride (feci3)

Adjust ph to neutral (ph-7)

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ARSENIC TRISULFIDE**4923222****POISON B****NA1557****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Arsenic trisulfide is a yellow crystalline solid. It is used as a pigment and for other uses. It is insoluble in water. It is noncombustible.

If material on fire or involved in fire

Use water in flooding quantities as fog

Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material

Keep upwind

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

MCD 000016977

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- Adjust ph to neutral (ph-7)
- Add ferric chloride (fecn3)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ARSENIC WHITE, SOLID (See ARSENIC TRIOXIDE, SOLID 4923115)

**ARSENIC, CRUDE (POISONOUS SOLID, N.O.S.) 4923204
POISON B NA2811**

Arsenic, crude, is a greyish metallic solid. It is insoluble in water. It is toxic by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**ARSENIC, SOLID (ARSENIC METALLIC) 4923207
POISON B UN1558**

Arsenic, solid is a greyish metallic solid turning black on the exposure to air. It is insoluble in water. It is toxic by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**ARSENICAL COMPOUND, N.O.S. (OR) ARSENICAL 4923210
MIXTURE, N.O.S. LIQUID
POISON B UN1556**

Arsenical compound, n.o.s. or arsenical mixture, n.o.s., liquid are liquid materials or solutions of solid materials containing arsenic. It is toxic by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**ARSENICAL COMPOUND, N.O.S., SOLID, (OR) 4923211
ARSENICAL MIXTURE, N.O.S. SOLID
POISON B UN1557**

Arsenical compound, n.o.s., solid, (or) arsenical mixture, n.o.s. Solid are various colored solid materials containing arsenic. Material generally is not soluble in water. It is toxic by inhalation (dust) and by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

**ARSENICAL DIP, LIQUID (SHEEP DIP) 4923212
POISON B NA1557**

Arsenical dip, liquid is a solution of an arsenic compound. It is soluble in water and is toxic by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ARSENICAL DUST 4923213
POISON B UN1562
 Arsenical dust is a greyish colored powder. It is insoluble in water. It is toxic by inhalation (dust) and by ingestion.
If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical
If material not involved in fire
 Keep material out of water sources and sewers
Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

ARSENICAL ORE, CRUDE (POISONOUS SOLID, N.O.S.) 4923395
POISON B NA2811
 Arsenical ore, crude is a variable colored solid.. it is insoluble in water. It is toxic by ingestion.
If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical
If material not involved in fire
 Keep material out of water sources and sewers
Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

ARSENICAL PESTICIDE, LIQUID, N.O.S. (COMPOUNDS AND PREPARATIONS) (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4923301
POISON B UN2759
 Arsenical pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may require some effort to ignite. It is toxic by inhalation, skin absorption, and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.
If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical
If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
Personnel protection
 Avoid breathing vapors
 Keep upwind

Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

ARSENICAL PESTICIDE, LIQUID, N.O.S. (COMPOUNDS AND PREPARATIONS) (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4923303
POISON B UN2759
 Arsenical pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may require some effort to ignite. It is toxic by inhalation, skin absorption, and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.
If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical
If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

ARSENICAL PESTICIDE, LIQUID, N.O.S. (COMPOUNDS AND PREPARATIONS) (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4910557
FLAMMABLE LIQUID UN2760
 Arsenical pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wear self-contained breathing apparatus when fighting fires involving this material

MCD 000016979

ARSENICAL PESTICIDE, LIQUID, N.O.S. 4910558
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, LIQUID)
FLAMMABLE LIQUID UN2760

Arsenical pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wear self-contained breathing apparatus when fighting fires involving this material

ARSENICAL PESTICIDE, SOLID, N.O.S. (COMPOUNDS 4923304
AND PREPARATIONS) (INSECTICIDES, OTHER
THAN AGRICUTURAL, NEC)

POISON B UN2759

Arsenical pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

ARSENICAL PESTICIDE, SOLID, N.O.S. (COMPOUNDS 4923302
AND PREPARATIONS) (AGRICULTURAL
INSECTICIDES, NEC, OTHER THAN LIQUID)

POISON B UN2759

Arsenical pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

ARSENOUS ACID, SOLID (See ARSENIC TRIOXIDE,
SOLID 4923115)

ARSENOUS AND MERCURIC IODIDE SOLUTION 4923215
POISON B NA2810

Arsenous and mercuric iodide solution is arsenous iodide and mercuric iodide dissolved in water and is red or yellow in color. It is toxic by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ARSINE 4920135
POISON A, FLAMMABLE UN2188

Arsine is a colorless gas with a disagreeable garlic-like odor. It is flammable. The gas is heavier than air and a flame can flash back to the source of leak very easily. It is toxic by inhalation. It may only be shipped in cylinders which may have to be overpacked in wooden or metal containers. Prolonged exposure of the cylinders to fire or heat may result in the cylinders violent rupturing and rocketing.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Continued on next page

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Evacuation
If material leaking (not on fire), downwind evacuation must be considered

ASPHALT ADDITIVE, ANTI-STRIPPING (CORROSIVE LIQUID, N.O.S.) 4936543
CORROSIVE MATERIAL UN1760
Asphalt additive, anti-stripping is a various colored liquid. It is corrosive to metals and/or tissue. it may burn though it may require some effort to ignite.

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

ASPHALT PAVEMENT SURFACE SEALER, ASPHALT, COAL TAR OR PETROLEUM BASE (COMBUSTIBLE LIQUID, N.O.S.) 4915302
COMBUSTIBLE LIQUID NA1993
Asphalt pavement surface sealer, asphalt, coal tar or petroleum base is a black liquid with a petroleum like odor. It has a flash point between 100 and 199 deg. F. It is generally heavier than water and is insoluble in water. Its vapors are heavier than air.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ASPHALT PAVEMENT SURFACE SEALER, ASPHALT, COAL TAR OR PETROLEUM BASE (FLAMMABLE LIQUID, N.O.S.) 4910302
FLAMMABLE LIQUID UN1993
Asphalt pavement surface sealer, asphalt, coal tar or petroleum base is a black liquid with a petroleum like odor. It has a flash point of less than 100 deg. F. It is generally heavier than water and is insoluble in water. Its vapors are heavier than air.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ASPHALT TILE, PLASTICIZER (COMBUSTIBLE LIQUID, N.O.S.) 4915408
COMBUSTIBLE LIQUID NA1993
Asphalt tile, plasticizer is a material containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard is combustibility.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ASPHALT TILE, PLASTICIZER (FLAMMABLE LIQUID, N.O.S.) 4910408
FLAMMABLE LIQUID UN1993
Asphalt tile, plasticizer is a material containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard is flammability.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

MCD 000016981

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ASPHALT, CUT BACK 4910220
FLAMMABLE LIQUID NA1999

Asphalt, cut back is a thick black liquid with a characteristic "tar" odor. It has a flash point of less than 100 deg. F. It is generally heavier than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ASPHALT, CUT BACK (ASPHALT PETROLEUM, 4915320
LIQUID AND TALL OIL PITCH, MIXED NA1999
COMBUSTIBLE LIQUID

Asphalt, cut back is a thick black liquid with a characteristic "tar" odor. It has a flash point between 100 and 199 deg. F. It is generally heavier than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ASPHALTUM OR COAL TAR PAINT (PAINT) 4915252
COMBUSTIBLE LIQUID UN1263

Asphaltum or coal tar paint may contain a combustible solvent. Its flash point is between 100 and 199 deg. F. The hazard is combustibility.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ASPHALTUM OR COAL TAR VARNISH (VARNISH) 4915253
COMBUSTIBLE LIQUID UN1263

Asphaltum or coal tar varnish may contain a combustible solvent. Its flash point is between 100 and 199 deg. F. The hazard is combustibility.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

AZINPHOS METHYL (OR) GUTHION (AGRICULTURAL 4921526
INSECTICIDES, NEC, LIQUID)

POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Azinphos methyl is a brown waxy solid dissolved in a liquid carrier. It is used as a pesticide. It is a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

AZINPHOS METHYL (OR) GUTHION (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4921527
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
 Azinphos methyl is a brown waxy solid. It is used as a pesticide. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

AZINPHOS METHYL (OR) GUTHION (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4921528
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
 Azinphos methyl is a brown waxy solid or the solid dissolved in a liquid carrier. It is used as a pesticide. It is toxic by inhalation, skin absorption, and/or ingestion. It is a wettable powder or water emulsifiable liquid. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

AZINPHOS METHYL MIXTURE, LIQUID (OR) GUTHION MIXTURE, LIQUID (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4921529
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
 Azinphos methyl mixture, liquid is a brown waxy solid dissolved in a liquid carrier. It is used as a pesticide. It is a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

MCD 000016983

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

**BAGS, SODIUM NITRATE EMPTY AND UNWASHED 4917301
FLAMMABLE SOLID UN1359**

Bags, sodium nitrate, empty and unwashed are burlap bags that have been used to ship sodium nitrate and are still contaminated by it. The bags are easily ignited and burn quite fiercely due to the oxidizing properties of sodium nitrate. The sodium nitrate is soluble in water. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Flood with water

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

Personnel protection

- Avoid breathing fumes from burning material

**BARIUM AZIDE, WET (50% OR MORE WATER) 4917110
FLAMMABLE SOLID UN1571**

Barium azide, wet is a slurry of white crystals. The dried material is a high explosive. Dry it is easily ignited and burns very vigorously. It is soluble in water. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Dangerously explosive
- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Do not attempt to sweep up dry material

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 5000 feet

**BARIUM CHLORATE 4918708
OXIDIZER UN1445**

Barium chlorate is a white crystalline solid. It is used in explosives and pyrotechnics, in dyeing textiles, and to make other chlorates. The material is soluble in water. It forms a very flammable mixture with combustible materials and this mixture may be explosive if the combustible material is very finely divided. The mixture can be ignited by friction. Contact with strong sulfuric acid can cause fires or explosions. When mixed with ammonium salts, spontaneous decomposition and ignition may result. Prolonged exposure of the material to fire or heat can result in an explosion.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 2500 feet

**BARIUM CHLORATE, WET 4918605
OXIDIZER NA1445**

Barium chlorate, wet is a water slurry or sludge of white crystals. It is used in explosives and pyrotechnics, in dyeing textiles, and to make other chlorates. The material is soluble in water. It forms a very flammable mixture with combustible materials and this mixture may be explosive if the combustible material is very finely divided. The mixture can be ignited by friction. Contact with strong sulfuric acid can cause fires or explosions. When mixed with ammonium salts, spontaneous decomposition and ignition may result. Prolonged exposure of the material to fire or heat can result in an explosion.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 1500 feet

**BARIUM CYANIDE, SOLID 4923410
POISON B UN1565
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)**

Barium cyanide, solid is a white crystalline solid. It is soluble in water and gradually decomposed by water and very rapidly decomposed by acids to give off hydrogen cyanide, a flammable poison gas. It is toxic by skin absorption through open wounds, by ingestion, and by inhalation of hydrogen cyanide from the decomposition of the material. Toxic oxides of nitrogen are produced in fires involving this material.

Continued on next page

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use foam, carbon dioxide or dry chemical
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding
 quantities as spray and fog
 Use water spray to absorb vapors

If material not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Use water spray to knock-down vapors
 Do not use water on material itself

Personnel protection
 Avoid breathing vapors or dusts
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water

Environmental considerations—water spill
 Add caustic soda
 Add calcium hypochlorite
 Add sodium sulfate (na2so4)
 Adjust ph to neutral (ph-7)
 Use mechanical dredges or lifts to remove immobilized masses of
 pollutants and precipitates

BARIUM HYDROXIDE MONOHYDRATE (CORROSIVE SOLID, N.O.S.) **4935238**
CORROSIVE MATERIAL **UN1760**
 Barium hydroxide monohydrate is a white powder. It is used in water
 purification, to make lubricating and oil additives, to make barium con-
 taining chemicals and for many other uses. It is slightly soluble in water.
 It is corrosive to metals and tissue. Tissue.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Apply water from as far a distance as possible

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water

BARIUM NITRATE **4918709**
OXIDIZER **UN1446**
 Barium nitrate is a white crystalline solid. The material is soluble in
 water. It is non-combustible but it will accelerate the burning of com-
 bustible materials. If large quantities of the material are involved in the
 fire or the combustible material is finely divided an explosion may result.
 Prolonged exposure of the material to fire or heat may result in an
 explosion. Toxic oxides of nitrogen are produced in fires involving this
 material.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 2500 feet

BARIUM PERCHLORATE **4918710**
OXIDIZER **UN1447**
 Barium perchlorate is a white crystalline solid. it is used to make
 explosives. It is soluble in water. It is noncombustible but it will accelerate
 the burning of combustible materials. If large quantities of the material
 are involved in the fire or the combustible material is finely divided an
 explosion may result. Prolonged exposure of the material to fire or heat
 may result in an explosion.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 2500 feet

BARIUM PERMANGANATE **4918711**
OXIDIZER **UN1448**
 Barium permanganate is a purplish colored crystalline solid. it is used
 as a disinfectant and to make other permanganates. It is soluble in
 water. The material itself is noncombustible but it will accelerate the
 burning of combustible material, if the combustible material is finely
 divided the mixture may be explosive. Contact with liquid combustible
 materials may result in spontaneous ignition. Contact with sulfuric acid
 may result in fires or explosions.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

MCD 000016985

Personnel protection

- Avoid breathing dusts
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 2500 feet

**BARIUM PEROXIDE
OXIDIZER**

**4918712
UN1449**

Barium peroxide is a greyish white granular solid. It is insoluble in water and is slowly decomposed by water. It is non-combustible but it will accelerate the burning of combustible material, if the combustible material is finely divided the mixture may be explosive. Mixtures of combustible material and the peroxide can be ignited by friction or contact with moisture.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 2500 feet

**BLASTING CHLORATE (CHLORATE, N.O.S.)
OXIDIZER**

**4918707
UN1461**

Blasting chlorate is a crystalline solid. It is soluble in water. It forms a very flammable mixture with combustible materials and this mixture may be explosive if the combustible material is finely divided. The mixture can be ignited by friction. Contact with strong sulfuric acid can cause fires or explosions. When mixed with ammonium salts, spontaneous decomposition and ignition may result. Prolonged exposure to fire or heat can result in an explosion.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 2500 feet

**BATTERIES, ELECTRIC STORAGE, WET, WITH
AUTOMOBILE AUTO PARTS, ENGINE
CORROSIVE MATERIAL**

4936502

NA2794

Batteries, electric storage, wet, with automobile auto parts engine consist of the wet electric storage battery and mechanic equipment in the same carload or trailer load. There are two possible hazards in transportation. First that the battery may be short circuited and resulting sparks may cause a fire. The second is that the battery may be turned over and the electrolyte spilled. The electrolyte is corrosive to metals and tissue. It is water soluble with evolution of heat.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

BATTERY BOX COMPOUNDS (COMBUSTIBLE LIQUID, N.O.S.)

4915550

COMBUSTIBLE LIQUID

NA1993

Battery box compounds are various colored liquids. They have a flash point between 100 and 199 deg. F. They are generally heavier than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

BATTERY BOX COMPOUNDS (FLAMMABLE LIQUID, N.O.S.)

4910550

FLAMMABLE LIQUID

UN1993

Battery box compounds are various colored liquids. They have a flash point of less than 100 deg. F. They are generally heavier than water and insoluble in water. their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

BATTERY CHARGER WITH ELECTROLYTE (ACID) 4936567
CORROSIVE MATERIAL, ACIDIC NA2794
 Battery charger with electrolyte (acid) consists of a package containing a battery charger and container (s) of electrolyte (acid). The electrolyte is a sulfuric acid-water solution. It is a colorless odorless liquid and is soluble in water with evolution of heat. It is corrosive to metals and tissue.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Apply water from as far a distance as possible
If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Neutralize spilled material with crushed limestone, soda ash, or lime
Personnel protection
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

BATTERY CHARGER WITH ELECTROLYTE 4936568
(ALKALINE BATTERY FLUID)
CORROSIVE MATERIAL, BASIC NA2794
 Battery charger with electrolyte (alkaline battery fluid) consists of a package containing a battery charger and container (s) of electrolyte (alkaline battery fluid). The electrolyte is water solution of potassium or sodium hydroxide. It is a colorless odorless liquid and is soluble in water with release of heat. It is corrosive to metals and tissue.
If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Apply water from as far a distance as possible
If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
Personnel protection
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

BATTERY SETS FOR WET BATTERIES (CORROSIVE 4936503
SOLID, N.O.S.)
CORROSIVE MATERIAL, BASIC UN1759
 Battery sets for wet batteries have containers of potassium or sodium hydroxide in the same package with other non-regulated items. Potassium or sodium hydroxide are white solids. They are soluble in water with release of heat. They are corrosive to metals and tissue.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Apply water from as far a distance as possible
If material not involved in fire
 Keep material out of water sources and sewers
Personnel protection
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

BATTERY SETS IN BATTERY BOXES (CORROSIVE 4936504
SOLID, N.O.S.)
CORROSIVE MATERIAL, BASIC UN1759
 Battery sets in battery boxes have containers of potassium or sodium hydroxide in the same package with other non-regulated items. Potassium and sodium hydroxide are white solids. They are soluble in water with release of heat. They are corrosive to metals and tissue.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Apply water from as far a distance as possible
If material not involved in fire
 Keep material out of water sources and sewers
Personnel protection
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

BATTERY, ELECTRIC STORAGE, WET 4936558
CORROSIVE MATERIAL NA2794
 Battery, electric storage, wet is the battery containing either electrolyte (acid) or alkaline corrosive battery fluid. The batteries are continuously evolving hydrogen, a flammable gas. The fluids are soluble in water with evolution of heat. They are corrosive to metals and tissue.
If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Apply water from as far a distance as possible
If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
Personnel protection
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

**BATTERY, ELECTRIC STORAGE, WET, WITH
CONTAINERS OF CORROSIVE BATTERY FLUID
CORROSIVE MATERIAL**

4936557

NA2794

Battery, electric storage, wet, with containers of corrosive battery fluid consist of the batteries packed in the same outside shipping container with battery fluid. The fluid is usually sulfuric acid or sodium potassium hydroxide solutions. The fluid is soluble in water with evolution of heat. It is corrosive to metals and tissues.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Personnel protection

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

**BAY RUM (COMBUSTIBLE LIQUID, N.O.S.)
COMBUSTIBLE LIQUID**

4915420

NA1993

Bay rum is a clear colorless to variable colored liquid with a pleasant odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors

Keep upwind

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

**BAY RUM (FLAMMABLE LIQUID, N.O.S.)
FLAMMABLE LIQUID**

4910420

UN1993

Bay rum is a clear colorless to variable colored liquid with a pleasant odor. It has a flash point of less than 100 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors

Keep upwind

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

**BELT DRESSING (COMBUSTIBLE LIQUID, N.O.S.)
COMBUSTIBLE LIQUID**

4915416

NA1993

Belt dressing is a material containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard is combustibility.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors

Keep upwind

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

**BELT DRESSING (FLAMMABLE LIQUID, N.O.S.)
FLAMMABLE LIQUID**

4910416

UN1993

Belt dressing is a material containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard is flammability.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors

Keep upwind

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

**BENZALDEHYDE
COMBUSTIBLE LIQUID**

4913111

NA1989

Benzaldehyde is a clear colorless to yellowish liquid with an almondlike odor. It has a flash point of 148 deg. F. It is heavier than water and insoluble in water. Its vapors are heavier than air.

Continued on next page

MCD 000016988

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

BENZENE 4908110
FLAMMABLE LIQUID UN1114
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Benzene is a clear colorless liquid with a characteristic aromatic odor. It is used to make other chemicals, as a solvent, and as a gasoline additive. It has a flash point of 12 deg. F., and solidifies at 42 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

It weighs 7.3 pounds per gallon.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
 Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill

Use natural barriers or oil spill control booms to limit spill motion
 Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
 Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Remove trapped material with suction hoses
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

BENZENE PHOSPHORUS DICHLORIDE 4931715
CORROSIVE MATERIAL, ACIDIC UN2798

Benzene phosphorus dichloride is a colorless fuming liquid. It is decomposed by water to give hydrochloric acid with release of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire
 Use dry chemical or carbon dioxide
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
 Use water spray to absorb vapors
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

BENZENE PHOSPHORUS THIODICHLORIDE 4931720
CORROSIVE MATERIAL, ACIDIC UN2799

Benzene phosphorus thiodichloride is a colorless fuming liquid. It is decomposed by water to give hydrochloric acid with release of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire
 Use dry chemical or carbon dioxide
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
 Use water spray to absorb vapors
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

BENZIDINE 4921503
POISON B UN1885
Benzidine is a greyish yellow to greyish red crystalline solid. It is used to make other chemicals, and in chemical and biological analysis. It is soluble in hot water. It is toxic by ingestion, inhalation, and skin absorption. Toxic oxides of nitrogen are produced during the combustion of this material.

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

BENZINE 4908112
FLAMMABLE LIQUID UN1115
Benzine is a clear colorless liquid with a petroleum-like odor. It has a flash point of less than 0 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

BENZOIC ACID 4966340
ORM-E NA9094
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
Benzoic acid is a white crystalline solid. It is used to make other chemicals, as a food preservative, and for other uses. It is slightly soluble in water. It will burn though it may take some effort to ignite.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Avoid breathing vapors or dusts
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water
Environmental considerations—water spill
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

BENZOIC DERIVATIVE PESTICIDE, LIQUID, N.O.S. 4910507
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)

FLAMMABLE LIQUID UN2770
Benzoic derivative pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wear self-contained breathing apparatus when fighting fires involving this material

BENZOIC DERIVATIVE PESTICIDE, LIQUID, N.O.S. 4921609
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, LIQUID)

POISON B UN2769
Benzoic derivative pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may require some effort to ignite. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

Continued on next page

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

BENZOIC DERIVATIVE PESTICIDE, LIQUID, N.O.S. 4910508
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, LIQUID)
FLAMMABLE LIQUID UN2770

Benzoic derivative pesticide is a liquid or solid dissolved in a liquid carrier. The liquid is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wear self-contained breathing apparatus when fighting fires involving this material

BENZOIC DERIVATIVE PESTICIDE, SOLID, N.O.S. 4921611
(COMPOUNDS AND PREPARATION)
(AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID)
POISON B UN2769

Benzoic derivative pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

BENZOIC DERIVATIVE PESTICIDE, SOLID, N.O.S. 4921610
(COMPOUNDS AND PREPARATION)
(INSECTICIDES, NEC, OTHER THAN AGRICULTURAL)
POISON B UN2769

Benzoic derivative pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

BENZOIC DERIVATIVE PESTICIDE, LIQUID, N.O.S. 4921608
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)
POISON B UN2769

Benzoic derivative pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may require some effort to ignite. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

MCD 000016991

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

BENZOL FORERUNNINGS, CRUDE, NOT BENZOL 4910204
(FLAMMABLE LIQUID, N.O.S.)
FLAMMABLE LIQUID UN1993

Benzol forerunnings, crude, not benzol are clear colorless liquids with a petroleum like odor. They have a flash point of less than 100 deg. F. They are lighter than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

BENZONITRILE 4913134
COMBUSTIBLE LIQUID UN2224
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Benzonitrile is a clear colorless liquid having an almond-like odor. It is used as a specialty solvent, and to make other chemicals. It has a flash point of 161 deg. F. It is heavier than water and slightly soluble in water.

It weighs 8.4 pounds per gallon.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
 Neutralize with caustic soda or soda ash

Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
 Add caustic soda
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Combustion products include corrosive or toxic vapors

BENZOYL CHLORIDE 4931725
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN1736
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Benzoyle chloride is a colorless fuming liquid having a pungent odor. It is used in medicine, and in the manufacture of other chemicals. It is combustible and has a flash point of 162 deg. F. Its fumes are irritating to the eyes and mucous membranes. It is decomposed by water to hydrochloric acid and water insoluble benzoic acid with release of heat. It is corrosive to metals and tissue.

It weighs 10.2 pounds per gallon.

If material on fire or involved in fire
 Use dry chemical or carbon dioxide
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
 Use water spray to absorb vapors
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

Continued on next page

MCD 000016992

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

BENZOYL PEROXIDE (BENZOYL PEROXIDE CRYSTALS, GRANULES OR POWDERS, WET WITH NOT LESS THAN 30% WATER) 4919115

ORGANIC PEROXIDE NA2085

Benzoyl peroxide is a white granular solid. It is easily ignited and burns very rapidly. It strongly supports the burning of combustible materials. Contact with many materials may result in ignition. Under prolonged exposure to fire or heat, containers of the peroxide can explode. As the peroxide dries out it becomes more susceptible to ignition and decomposition.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

BENZOYL PEROXIDE (BENZOYL PEROXIDE, DRY OR WET WITH LESS THAN 30% WATER) 4919110

ORGANIC PEROXIDE NA2085

Benzoyl peroxide is a white granular solid. It is easily ignited and burns very rapidly. It strongly supports the burning of combustible materials. Contact with many materials may result in ignition. Under prolonged exposure to fire or heat containers of the peroxide can explode. As the peroxide dries out it becomes more susceptible to ignition and decomposition.

If material on fire or involved in fire

Burns with explosive violence. If it becomes ignited, it cannot be extinguished
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

BENZOYL PEROXIDE, (MORE THAN 77% BUT LESS THAN 95% WITH WATER) 4919118

ORGANIC PEROXIDE UN2088

Benzoyl peroxide, (more than 77% but less than 95% with water) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

BENZOYL PEROXIDE, (NOT LESS THAN 30% BUT NOT MORE 52% WITH INERT SOLID) 4919117

ORGANIC PEROXIDE UN2089

Benzoyl peroxide, (not less than 30% but not more 52% with inert solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

BENZOYL PEROXIDE, (NOT MORE THAN 72% AS A PASTE) 4919116

ORGANIC PEROXIDE UN2087

Benzoyl peroxide, (not more than 72% as a paste) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

BENZOYL PEROXIDE, (NOT MORE THAN 77% WITH WATER) 4919114

ORGANIC PEROXIDE UN2090

Benzoyl peroxide, (not more than 77% with water) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

BENZOYL PEROXIDE, (TECHNICALLY PURE OR) 4919113

BENZOYL PEROXIDE, (MORE THAN 52% WITH INERT SOLID) UN2085

Benzoyl peroxide, (technically pure or) benzoyl peroxide, (more than 52% with inert solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

Continued on next page

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**BENZYL BROMIDE (BROMOTOLUENE, ALPHA) 4936010
CORROSIVE MATERIAL, POISONOUS UN1737**

Benzyl bromide is a colorless liquid with an agreeable odor. It is toxic by inhalation and by skin absorption. It is slightly soluble in water and is heavier than water. It is corrosive to metals and tissue.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

**BENZYL CHLORIDE 4936012
CORROSIVE MATERIAL, POISONOUS, COMBUSTIBLE UN1738
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)**

Benzyl chloride is a colorless liquid with an irritating odor. It is toxic by inhalation and skin absorption. It is combustible and has a flash point of 153 deg. F. It is slightly soluble in water. It is corrosive to metals and tissue.

It weighs 9.2 pounds per gallon.

If material on fire or involved in fire

Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
Remove trapped material with suction hoses
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors
Vapor knockdown water is corrosive or toxic and should be diked for containment

**BENZYL CHLOROFORMATE 4933010
CORROSIVE MATERIAL, ACIDIC, POISONOUS UN1739**

Benzyl chloroformate is a colorless liquid with an acrid odor. It is decomposed by water to give hydrochloric acid with evolution of heat. Its vapors are irritating to eyes and mucous membranes. It is corrosive to metals and tissue.

If material on fire or involved in fire

Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

**BERYLLIUM CHLORIDE 4923305
POISON B UN1566
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Beryllium chloride is a white to yellow crystalline mass. It absorbs water from the air and dissolves in it. It is toxic by ingestion.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water

Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone,
 or sodium bicarbonate
 Adjust ph to neutral (ph-7)
 Use mechanical dredges or lifts to remove immobilized masses of
 pollutants and precipitates

BERYLLIUM COMPOUND, N.O.S. **4923216**
POISON B **UN1566**
 Beryllium compounds, n.o.s. are generally white crystalline or pow-
 dered material containing beryllium. They are generally soluble in water.
 They are toxic by inhalation and by ingestion.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material

BERYLLIUM FLUORIDE **4923310**
POISON B **NA1566**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
 Beryllium fluoride is a colorless crystalline mass. It is soluble in water.
 It is toxic by ingestion.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind

Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water

Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone,
 or sodium bicarbonate
 Adjust ph to neutral (ph-7)
 Use mechanical dredges or lifts to remove immobilized masses of
 pollutants and precipitates

BERYLLIUM HYDROXIDE (BERYLLIUM COMPOUND, N.O.S.) **4923315**
POISON B **UN1566**
 Beryllium hydroxide is a white powder. It is insoluble in water. It is
 toxic by inhalation (dust, etc.) and by ingestion.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
 If contact with the material anticipated, wear full protective clothing

BERYLLIUM NITRATE **4918759**
OXIDIZER **UN2464**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
 Beryllium nitrate is a white to pale yellow crystalline solid. It is used
 in chemical analysis. It is soluble in water. It is noncombustible, but it
 will accelerate the burning of combustible materials. If large quantities
 of the material are involved or the material is finely divided, an explosion
 may result. Prolonged exposure to fire or heat may result in an explosion.
 Toxic oxides of nitrogen are produced in fires involving this material.

If material involved in fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water

Continued on next page

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

BERYLLIUM PHOSPHATE (BERYLLIUM COMPOUND, N.O.S.) 4923325

POISON B UN1568

Beryllium phosphate is a white crystalline powder. It is insoluble in water. It is toxic by inhalation (dust, etc.) and by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

BERYLLIUM SULFATE (BERYLLIUM COMPOUND, N.O.S.) 4923330

POISON B UN1568

Beryllium sulfate is a colorless crystalline solid. It is soluble in water. It is toxic by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

BETA-PROPIOLACTONE (COMBUSTIBLE LIQUID, N.O.S.) 4913110

COMBUSTIBLE LIQUID NA1993

Beta-propiolactone is a clear colorless liquid with a pungent odor. It has a flash point of 167 deg. F. It is heavier than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors

Keep upwind

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

BIPHENYL (DIPHENYL) (COMBUSTIBLE LIQUID, N.O.S.) 4913108

COMBUSTIBLE LIQUID NA1993

Biphenyl is a clear colorless liquid with a pleasant odor. It is used to manufacture other chemicals and as a fungicide. It has a flash point of 180 deg.f. and is insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may spread fire

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors

Keep upwind

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

BIPYRIDILIUM PESTICIDE, LIQUID, N.O.S. 4910521
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)

FLAMMABLE LIQUID UN2782

Bipyridilium pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wear self-contained breathing apparatus when fighting fires involving this material

BIPYRIDILUM PESTICIDE, LIQUID, N.O.S. 4910522
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, LIQUID)

FLAMMABLE LIQUID UN2782
Bipyridilum pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wear self-contained breathing apparatus when fighting fires involving this material

BIPYRIDILUM PESTICIDE, SOLID, N.O.S. 4921618
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID)

POISON B UN2781
Bipyridilum pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

BIPYRIDILUM PESTICIDE, SOLID, N.O.S. 4921617
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)

POISON B UN2781
Bipyridilum pesticide is a solid or a liquid absorbed on a dry carrier. The carrier is water emulsifiable. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog

Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

BIPYRIDILUM PESTICIDE, LIQUID, N.O.S. 4921616
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, LIQUID)

POISON B UN2781
Bipyridilum pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may require some effort to ignite. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

BOND BREAKING COMPOUND, CONSISTING OF NAPHTHA PETROLEUM RESINS AND VEGETABLE OIL (COMBUSTIBLE LIQUID, N.O.S.) 4915144

COMBUSTIBLE LIQUID NA1993

Bond breaking compound is a various colored liquid. It has a flash point between 100 and 200 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

BOND BREAKING COMPOUND, CONSISTING OF NAPHTHA, PETROLEUM RESINS AND VEGETABLE OILS (FLAMMABLE LIQUID, N.O.S.) 4910145

FLAMMABLE LIQUID UN1993

Bond breaking compound is a various colored liquid. It has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

BOOSTER (EXPLOSIVE) (COMMERCIAL) 4901310

CLASS A EXPLOSIVE

Booster (explosive) consists of a casing containing a high explosive. It is used to intensify the explosion of a detonator

If material on fire or involved in fire

- Dangerously explosive
- Do not fight fires in a cargo of explosives
- Evacuate area and let burn

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 5000 feet

BOOSTER, (EXPLOSIVE)(MILITARY) 4901215

CLASS A EXPLOSIVE

Booster (explosive) consists of a casing containing a high explosive. It is used to intensify the explosion of a detonator or detonating fuze. If the casing is metal the booster will explode under fire conditions. If the casing is nonmetallic the booster may or may not explode under fire conditions.

If material on fire or involved in fire

- Dangerously explosive
- Do not fight fires in a cargo of explosives
- Evacuate area and let burn

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 5000 feet

BORDEAU ARSENITE, LIQUID 4923420
POISON B NA2759

Bordeau arsenite, liquid is arsenic and copper compounds. They are dark in color and are used as an insecticide. They are toxic by ingestion and inhalation.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Continued on next page

MCD 000017000

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

**BORDEAUX ARSENITE, SOLID
POISON B****4923415
NA2759**

Bordeaux arsenite, solid is an arsenic and copper compound. It is a black crystalline solid, and is used as an insecticide. It is toxic by ingestion and by inhalation (dusts, etc). It is generally soluble in water.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

**BORON TRIBROMIDE
CORROSIVE MATERIAL, ACIDIC, POISONOUS****4932010
UN2692**

Boron tribromide is a colorless, fuming liquid with a pungent odor. Its fumes are irritating to the eyes and mucous membranes. It is decomposed by water to hydrobromic and boric acids with release of heat. It is corrosive to metals and tissue.

If material involved in fire

Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

**BORON TRICHLORIDE
CORROSIVE MATERIAL, POISONOUS, ACIDIC****4932011
UN1741**

Boron trichloride is a colorless fuming liquid with a pungent odor. It is used as a catalyst in chemical manufacture, in soldering fluxes, and for many other uses. Its fumes are irritating to the eyes and mucous membranes. It is decomposed by water to boric and hydrochloric acids with release of heat. It is corrosive to metals and tissue.

If material involved in fire

Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

**BORON TRIFLUORIDE
NONFLAMMABLE GAS, POISONOUS****4904110
UN1008**

Boron trifluoride is a colorless gas with a pungent odor. It is toxic by inhalation. It is soluble in water and slowly hydrolyzed by cold water to give hydrofluoric acid, a corrosive material. Its vapors are heavier than air. It may only be shipped in cylinders.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors

If material not involved in fire

Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Do not use water on material itself

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

MCD 000017001

BORON TRIFLUORIDE-ACETIC ACID COMPLEX 4930202
CORROSIVE MATERIAL, ACIDIC UN1742
Boron trifluoride-acetic acid complex is a colorless liquid with a penetrating odor. It is soluble in water. It is corrosive to metals and tissue.

If material on fire or involved in fire

- Do not use water on material itself
- Use "alcohol" foam, carbon dioxide or dry chemical
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

BOX TOE GUM 4910109
FLAMMABLE LIQUID UN2059

Box toe gum is the solution of a gum in a flammable solvent. It has a flash point of less than 100 deg. F.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

BOX TOE GUM 4915109
COMBUSTIBLE LIQUID UN2060

Box toe gum is the solution of a gum in a flammable solvent. It has a flash point between 100 and 199 deg. F.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

BRAKE OR SHOCK ABSORBER FLUID OR 4915543
HYDRAULIC SYSTEM FLUID OTHER THAN
PETROLEUM (COMBUSTIBLE LIQUID, N.O.S.) NA1993

Brake or shock absorber fluid or hydraulic system fluid other than petroleum is a various colored liquid. It has a flash point of between 100 and 200 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

BRANDY, ALCOHOLIC (ALCOHOLIC BEVERAGE) 4910107
FLAMMABLE LIQUID UN1170

Brandy, alcoholic is clear colorless to variable colored liquid with a characteristic odor. It has a flash point of less than 100 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

MCD 000017002

Continued on next page

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**BRANDY, ALCOHOLIC (ALCOHOLIC BEVERAGE) 4915107
COMBUSTIBLE LIQUID UN1170**

Brandy, alcoholic is clear colorless to variable colored liquid with a characteristic odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**BROMBENZYL CYANIDE, LIQUID (IRRITATING
AGENT, N.O.S.) 4925210****IRRITATING MATERIAL NA1693**

Brombenzyl cyanide is a pale yellow crystalline solid melting at 77 deg. F. to a brown oily liquid. The vapors are extremely irritating to the eyes and mucous membranes. Exposure to high concentrations may be fatal. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical
- Cool all affected containers with flooding quantities of water
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

**BROMINE 4936110
CORROSIVE MATERIAL, POISONOUS, OXIDIZING UN1744**

Bromine is a reddish brown fuming liquid with a pungent odor. Its vapors are irritating to the eyes and mucous membranes. It is toxic by inhalation. It is heavier than water and slightly soluble in water. It accelerates the burning of combustible material. It is corrosive to metals and tissue.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use water spray to absorb vapors

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If material leaking (not on fire) evacuate for a radius of 2500 feet

**BROMINE PENTAFLUORIDE 4918505
OXIDIZER, CORROSIVE UN1745**

Bromine pentafluoride is a colorless fuming liquid with a pungent odor. It is used to make other chemicals and in rockets. It is decomposed by water to hydrofluoric acid and other materials with release of heat. Its vapors are irritating to the eyes and mucous membranes. It is corrosive to metals and tissue. It will accelerate the burning of combustible material. It may only be shipped in cylinders without any safety relief device. If cylinders are involved in fire they may violently rupture and rocket.

If material involved in fire

- Do not use water on material itself
- Use dry chemical or carbon dioxide
- Cool all affected containers with flooding quantities of water
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors

If material not involved in fire

- Do not use water on material itself
- Keep material out of water sources and sewers
- Use water spray to knock-down vapors
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

BROMINE TRIFLUORIDE 4918507
OXIDIZER, CORROSIVE UN1746
Bromine trifluoride is a colorless to yellow fuming liquid with a pungent odor. It solidifies at 48 deg. F. It is decomposed by water to hydrofluoric acid and other materials with release of heat. It is corrosive to metals and tissue. It will accelerate the burning of combustible material. It may only be shipped in cylinder without any safety relief device. If the cylinders are involved in fire they may violently rupture and rocket.

If material involved in fire
Do not use water on material itself
Use dry chemical or carbon dioxide
Cool all affected containers with flooding quantities of water
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors

If material not involved in fire
Do not use water on material itself
Keep material out of water sources and sewers
Use water spray to knock-down vapors
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

BROMOACETIC ACID SOLUTION 4931411
CORROSIVE MATERIAL, ACIDIC UN1938
Bromoacetic acid solution is the colorless crystalline material dissolved in water. It is corrosive to metals and tissue.

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

BROMOACETIC ACID, SOLID 4931410
CORROSIVE MATERIAL UN1938
Bromoacetic acid, solid is a colorless crystalline material. It absorbs moisture from the air and forms a syrup. It is soluble in water. It is corrosive to metals and tissue.

If material on fire or involved in fire
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Neutralize spilled material with crushed limestone, soda ash, or lime
Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

BROMOACETONE, LIQUID 4920101
POISON A, FLAMMABLE UN1569
Bromoacetone is a clear colorless liquid turning violet in the absence of air and further decomposing to a black resinous mass on long standing. In low concentrations it is very irritating to the eyes and in higher concentrations or prolonged exposure to low concentration it is toxic by inhalation. Contact with the liquid will cause very painful burns. The material may only be shipped in cylinders or bottles or cans packed in wooden boxes. The material will burn. Prolonged exposure of the cylinders to heat or fire may result in the violent rupturing and rocketing of the cylinders.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If material leaking (not on fire), downwind evacuation must be considered

BROMOBENZENE 4913112
COMBUSTIBLE LIQUID UN2514
Bromobenzene is a clear colorless liquid with a pleasant odor. It has a flash point of 124 deg. F. It is heavier than water and insoluble in water. Its vapors are heavier than air.

Continued on next page

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

BRUCINE, SOLID (DIMETHYL STRYCHNINE) 4921411
POISON B UN1570

Brucine, solid is a white crystalline solid. It is very slightly soluble in water. It is combustible though it may require some effort to ignite. It is toxic by inhalation (vapor, dust, etc.)

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid breathing vapors or dusts
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

BURNT COTTON, NOT REPIKED (COTTON, NEC, IN 4917304
BALES COMPRESSED)
FLAMMABLE SOLID NA1325

Burnt cotton, not repicked is cotton fibre that has been on fire and the burned portion has not been removed. The hazard is that once cotton has been on fire, the fire may persist in the interior of the bale for a long time. The regulations require that burnt cotton be held for ten days after the last evidence of fire, before it is offered for transportation.

If material on fire or involved in fire
Flood with water

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

BURSTER (EXPLOSIVE) 4901220
CLASS A EXPLOSIVE

Burster (explosive) consists of a casing containing a high explosive. It is used to rupture a bomb or projectile to release the contents. Under fire conditions they will explode.

If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

BUTADIENE, INHIBITED (BUTADIENE FROM 4905705
ALCOHOL)
FLAMMABLE GAS UN1010

Butadiene, inhibited is a colorless gas with an aromatic odor. It is used to make synthetic rubber and plastics, and to make other chemicals. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite, it must be shipped inhibited as it is liable to polymerization. If polymerization were to take place in a cylinder or tank car, the cylinder or tank car may violently rupture. It is easily ignited. Its vapor is heavier than air and a flame can flash back to the source of leak very easily. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may violently rupture and rocket.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

BUTADIENE, INHIBITED (BUTADIENE FROM 4905704
PETROLEUM)
FLAMMABLE GAS UN1010

Butadiene, inhibited is a colorless gas with an aromatic odor. It is used to make synthetic rubber and plastics, and to make other chemicals. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It must be shipped inhibited as butadiene is liable to polymerization. If polymerization occurs in a cylinder or tank car, the cylinder or tank car may violently rupture. It is easily ignited. Its vapors are heavier than air and a flame can flash back to the source of leak very easily. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may violently rupture and rocket.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Approach fire with caution
Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
 If material leaking (not on fire), downwind evacuation must be considered

**BUTADIENE, INHIBITED (BUTADIENE, IMPURE, FOR FURTHER REFINING) 4905703
 FLAMMABLE GAS UN1010**

Butadiene, inhibited is a colorless gas with an aromatic odor. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It must be shipped inhibited as butadiene is liable to polymerization. If polymerization were to take place in a cylinder or tank car, the cylinder or tank car may violently rupture. It is easily ignited, its vapor is heavier than air and a flame can flash back to the source of leak very easily. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may violently rupture and rocket.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Approach fire with caution
Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
 If material leaking (not on fire), downwind evacuation must be considered

**BUTANE 4905706
 FLAMMABLE GAS UN1075**

Butane is a colorless gas with a faint petroleum like odor. It is used as a fuel, an aerosol propellant, in cigarette lighters, and to make other chemicals. For transportation it may be stenciled. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air and a flame can flash back to the source of leak very easily. The leak can be either a liquid or vapor leak. Under fire conditions the cylinders or tank cars may violently rupture and rocket.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Approach fire with caution
Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
 If material leaking (not on fire), downwind evacuation must be considered

**BUTANE (BUTANE, IMPURE, FOR FURTHER REFINING) 4905702
 FLAMMABLE GAS UN1075**

Butane is a colorless gas with a faint petroleum like odor. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air and a flame can flash back to the source of leak very easily. The leak can be either a liquid or vapor leak. Under fire conditions the cylinders or tank cars may violently rupture and rocket.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Approach fire with caution
Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
 If material leaking (not on fire), downwind evacuation must be considered

**2-BUTANOL (BUTYL ALCOHOL) 4909129
 FLAMMABLE LIQUID NA1120**

2-butanol is a clear, colorless liquid with a pleasant odor. It is used to make other chemicals and as a solvent. It has a flash point of 75 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

Continued on next page

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

BUTENE GAS, LIQUEFIED (LIQUEFIED PETROLEUM GAS) 4905707

FLAMMABLE GAS UN1075
 Butene gas, liquefied is colorless gas with a faint petroleum like odor. For transportation it may be stenchod. It is shipped as a liquefied gas under its own vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapor is heavier than air, and a flame can flash back to the source of the leak very easily. The leak can either be a liquid or vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may violently rupture and rocket.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
 If material leaking (not on fire), downwind evacuation must be considered

BUTYL ACETATE 4908128
FLAMMABLE LIQUID UN1123
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Butyl acetate is a clear, colorless liquid with a fruity odor. It has a flash point in the range of 72 deg. F. to 88 deg. F. It is lighter than water and very slightly soluble in water. Its vapors are heavier than air. It weighs 7.4 pounds per gallon.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire

Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
 Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill
 Use natural barriers or oil spill control booms to limit spill motion
 Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
 Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Remove trapped material with suction hoses
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

N-BUTYL ACID PHOSPHATE 4933315
CORROSIVE MATERIAL, ACIDIC UN1718

N-butyl acid phosphate is a colorless liquid. It is insoluble in water. It is corrosive to metals and tissue.

If material on fire or involved in fire
 Use dry chemical, carbon dioxide, or dry sand
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
 Use water spray to absorb vapors
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

MCD 000017007

BUTYL ACRYLATE (COMBUSTIBLE LIQUID, N.O.S.) 4912215
COMBUSTIBLE LIQUID NA1993

Butyl acrylate is a clear colorless liquid. It is used to make paints and plastics. It has a flash point of 120 deg.F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet

N-BUTYL ALCOHOL (BUTYL ALCOHOL) 4909117
FLAMMABLE LIQUID NA1120

N-butyl alcohol is a clear colorless liquid. It is used to make other chemicals. It has a flash point of 95 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

TERT-BUTYL ALCOHOL (BUTYL ALCOHOL) 4909130
FLAMMABLE LIQUID NA1120

Tert-butyl alcohol is a clear, colorless liquid with a camphor like odor. It has a flash point of 52 deg. F. and a melting point of 77 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

BUTYL BROMIDE (NORMAL) 4909127
FLAMMABLE LIQUID UN1126

Butyl bromide (normal) is a clear colorless liquid. It has a flash point of 65 deg. F. It is heavier than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

BUTYL CHLORIDE 4908115
FLAMMABLE LIQUID UN1127

Butyl chloride is a clear colorless liquid. It has a flash point of 15 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

Continued on next page

MCD 000017008

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

TERT-BUTYL CUMYL PEROXIDE, (TECHNICALLY PURE OR) TERT-BUTYL CUMENE PEROXIDE, (TECHNICALLY PURE)

4919135

ORGANIC PEROXIDE

UN2091

Tert-butyl cumyl peroxide, (technically pure or) tert-butyl cumene peroxide, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**BUTYL ETHER
FLAMMABLE LIQUID**

**490912
UN114.**

Butyl ether is a clear colorless with an ethereal odor. It has a flash point of 77 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**BUTYL FORMATE
FLAMMABLE LIQUID**

**4909126
UN1128**

Butyl formate is a clear colorless liquid. It has a flash point of 77 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**TERT-BUTYL HYDROPEROXIDE, (MORE THAN 72% BUT NOT MORE THAN 90% WITH WATER)
ORGANIC PEROXIDE**

**4919136
UN2094**

Tert-butyl hydroperoxide, (more than 72% but not more than 90% with water) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is soluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of +2500 feet

TERT-BUTYL HYDROPEROXIDE, (NOT MORE THAN 4919137
72% WITH WATER)
ORGANIC PEROXIDE UN2093
 Tert-butyl hydroperoxide, (not more than 72% with water) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is soluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL HYDROPEROXIDE, (NOT MORE THAN 4919138
80% IN DI-TERT-BUTYL PEROXIDE AND
SOLVENT)
ORGANIC PEROXIDE UN2092
 Tert-butyl hydroperoxide, (not more than 80% in di-tert-butyl peroxide and solvent) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is soluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

N-BUTYL ISOCYANATE 4907415
FLAMMABLE LIQUID, POISONOUS UN2485
 N-butyl isocyanate is a clear colorless liquid. It has a flash point of 70 deg. F. In low concentrations its vapors are irritating to the eyes and mucous membranes. In higher concentrations it is toxic by inhalation. It is lighter than water and insoluble in water. It is very slowly decomposed by water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Continued on next page

MCD 000017010

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

**TERT-BUTYL ISOPROPYL BENZENE
HYDROPEROXIDE**

4919590

ORGANIC PEROXIDE

NA2091

Tertiary butyl isopropyl benzene hydroperoxide is a white crystalline solid. It must be shipped as a solution in a non-volatile solvent of not more than 60% concentration. At times this may appear as a slurry or sludge of white crystals. The solution may take some effort to ignite but once ignited, it burns with increasing rapidity as the fire progresses. The dried material is more easily ignited. Contamination of the solution with many chemicals can cause a violent chemical reaction. The material supports the burning of combustible material. Under prolonged exposure to heat or fire containers of the material can explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

BUTYL LACTATE (COMBUSTIBLE LIQUID, N.O.S.)

4913131

COMBUSTIBLE LIQUID

NA1993

Butyl lactate is a clear colorless liquid with a mild odor. It is used as a solvent, and in the making of other chemicals. It has a flash point of 168 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**BUTYL MERCAPTAN
FLAMMABLE LIQUID**

4909133

UN2347

Butyl mercaptan is a clear, colorless liquid with a strong skunk-like odor. It has a flash point in the range of -15 deg. F. to 35 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

**TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, (NOT
MORE THAN 30%) WITH 2,2-DI-(TERT-
BUTYLPEROXY) BUTANE, (NOT MORE THAN 35%
WITH NOT LESS THAN 35% PHLEGMATIZER)**

4919142

ORGANIC PEROXIDE

UN2886

Tert-butyl peroxy-2-ethylhexanoate, (not more than 30%) with 2,2-di-(tert-butylperoxy) butane, (not more than 35% with not less than 35% phlegmatizer) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode. The phlegmatizer is a material added to make the peroxide less reactive.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, (NOT MORE THAN 50% WITH PHLEGMATIZER) 4919144
ORGANIC PEROXIDE UN2888**

Tert-butyl peroxy-2-ethylhexanoate, (not more than 50% with phlegmatizer) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode. The phlegmatizer is a material added to make the peroxide less reactive.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, (TECHNICALLY PURE) 4919141
ORGANIC PEROXIDE UN2143**

Tert-butyl peroxy-2-ethylhexanoate, (technically pure) is a clear colorless liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, NOT MORE 12%) WITH 2,2-DI-(TERT-BUTYLPEROXY)BUTANE, (NOT MORE THAN 14% WITH NOT LESS THAN 14% PHLEGMATIZER AND 60% INERT INORGANIC SOLID) 4919143
ORGANIC PEROXIDE UN2887**

Tert-butyl peroxy-2-ethylhexanoate, not more 12%) with 2,2-di-(tert-butylperoxy)butane, (not more than 14% with not less than 14% phlegmatizer and 60% inert inorganic solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode. The phlegmatizer is a material added to make the peroxide less reactive.

Continued on next page

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

3-TERT-BUTYL PEROXY-3-PHENYLPHthalIDE, 4919146
(TECHNICALLY PURE)
ORGANIC PEROXIDE UN2596
 3-tert-butyl peroxy-3-phenylphthalide, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE 4919145
(OR) TERT-BUTYL PEROXYISONONANOATE,
(TECHNICALLY PURE)
ORGANIC PEROXIDE UN2104
 Tert-butyl peroxy-3,5,5-trimethylhexanoate (or) tert-butyl peroxyisononanoate, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode. The phlegmatizer is a material added to make the peroxide less reactive.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYACETATE, (NOT MORE THAN 4919147
52% IN SOLUTION)
ORGANIC PEROXIDE UN2096
 Tert-butyl peroxyacetate, (not more than 52% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYACETATE, (NOT MORE THAN 76% IN SOLUTION) 4919148

ORGANIC PEROXIDE

UN2095

Tert-butyl peroxyacetate, (not more than 76% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYBENZOATE (NOT MORE THAN 50% WITH INERT INORGANIC SOLID) 4919149

ORGANIC PEROXIDE

UN2890

Tert-butyl peroxybenzoate (not more than 50% with inert inorganic solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYBENZOATE, (NOT MORE THAN 75% IN SOLUTION) 4919150

ORGANIC PEROXIDE

UN2098

Tert-butyl peroxybenzoate, (not more than 75% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYBENZOATE, (TECHNICALLY PURE OR) TERT-BUTYL PEROXYBENZOATE, (MORE THAN 75% IN SOLUTION) 4919151

ORGANIC PEROXIDE UN2097

Tert-butyl peroxybenzoate, (technically pure or) tert-butyl peroxybenzoate, (more than 75% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYCROTONATE, (NOT MORE 76% IN SOLUTION) 4919152

ORGANIC PEROXIDE UN2183

Tert-butyl peroxycrotonate, (not more 76% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material

Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

N-BUTYL PEROXYDICARBONATE, (NOT MORE THAN 27% IN SOLUTION) 4919153

ORGANIC PEROXIDE UN2170

N-butyl peroxydicarbonate, (not more than 27% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYDIETHYLACETATE, (TECHNICALLY PURE) 4919156

ORGANIC PEROXIDE UN2144

Tert-butyl peroxydiethylacetate, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

MCD 000017015

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYDIETHYLACETATE, (33% WITH TERT-BUTYL PEROXYBENZOATE, (33%, AND SOLVENT) 4919155
ORGANIC PEROXIDE UN2551
 Tert-butyl peroxydiethylacetate, (33% with) tert-butyl peroxybenzoate, (33%, and solvent) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYISOBUTYRATE, (MORE THAN 52% BUT NOT MORE THAN 77% IN SOLUTION) 4919157
ORGANIC PEROXIDE UN2142
 Tert-butyl peroxyisobutyrate, (more than 52% but not more than 77% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYISOBUTYRATE, (NOT MORE THAN 52% IN SOLUTION) 4919158
ORGANIC PEROXIDE UN2562
 Tert-butyl peroxyisobutyrate, (not more than 52% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Continued on next page

MCD 000017016

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**TERT-BUTYL PEROXYISOPROPYL CARBONATE, 4919159
(TECHNICALLY PURE)
ORGANIC PEROXIDE UN2103**

Tert-butyl peroxyisopropyl carbonate, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**TERT-BUTYL PEROXYMALEATE, (NOT MORE THAN 4919161
55% AS A PASTE)
ORGANIC PEROXIDE UN2101**

Tert-butyl peroxy maleate, (not more than 55% as a paste) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**TERT-BUTYL PEROXYMALEATE, (NOT MORE THAN 4919160
55% IN SOLUTION)
ORGANIC PEROXIDE UN2100**

Tert-butyl peroxy maleate, (not more than 55% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

MCD 000017017

TERT-BUTYL PEROXYMALEATE, (TECHNICALLY PURE) 4919162

ORGANIC PEROXIDE UN2099

Tert-butyl peroxy maleate, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYNEODECANOATE, (NOT MORE THAN 77% IN SOLUTION) 4919163

ORGANIC PEROXIDE UN2177

Tert-butyl peroxyneodecanoate, (not more than 77% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYNEODECANOATE, (TECHNICALLY PURE) 4919164

ORGANIC PEROXIDE UN2594

Tert-butyl peroxyneodecanoate, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYPHthalATE, (TECHNICALLY PURE) 4919165

ORGANIC PEROXIDE UN2105

Tert-butyl peroxyphthalate, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

Continued on next page

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

TERT-BUTYL PEROXYPIVALATE, (NOT MORE THAN 77% IN SOLUTION) 4919166
ORGANIC PEROXIDE UN2110
 Tert-butyl peroxy-pivalate, (not more than 77% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

BUTYL PHENOL (CORROSIVE SOLID, N.O.S.) 4935629
CORROSIVE MATERIAL, BASIC UN1751
 Butyl phenol is a white crystalline solid. It is used to make other chemicals. It is insoluble in water. It may burn though it may require some effort to ignite. It is corrosive to metals and tissue.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Solid streams of water may be ineffective
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

BUTYL PHOSPHORIC ACID (SEE ACID BUTYL PHOSPHATE 4933315)

N-BUTYL PHTHALATE 4962110
ORM-E NA9095
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
SUBSTANCE (RQ-100/45.4)
 N-butyl phthalate is a colorless oily liquid. It is used in paints and plastics and as a reaction media for chemical reactions. It is insoluble in water. It is combustible though it may take some effort to ignite.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Solid streams of water may be ineffective
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Avoid breathing vapors or dusts
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

MCD 000017019

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
- Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
- Remove trapped material with suction hoses
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

BUTYL TRICHLOROSILANE 4934215
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN1747

Butyl trichlorosilane is a colorless liquid with a pungent odor. It is used to make various silicon containing compounds. It is combustible and has a flash point of 126 deg. F. It is readily decomposed by moisture or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

N-BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE, 4919133
(NOT MORE THAN 52% WITH INERT SOLID)
ORGANIC PEROXIDE UN2141

N-butyl-4,4-di-(tert-butylperoxy)valerate, (not more than 52% with inert solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

N BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE, 4919134
(TECHNICALLY PURE)

ORGANIC PEROXIDE UN2140

N-butyl-4,4-di-(tert-butylperoxy)valerate, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

BUTYLAMINE 4908120
FLAMMABLE LIQUID UN1125
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Butylamine is a clear colorless liquid with an ammonia-like odor. It has a flash point of 10 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

It weighs 6.2 pounds per gallon.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet

If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Apply fluorocarbon-water foam to diminish vapor and fire hazard
Neutralize with sodium bisulfate (nahso4)

Environmental considerations—water spill

Add sodium bisulfate
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors
Vapor knockdown water is corrosive or toxic and should be diked for containment

TERT-BUTYLAMINE (BUTYLAMINE) 4909134
FLAMMABLE LIQUID UN1125
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Tert-butylamine is a clear, colorless liquid with an ammonia like odor. It has a flash point of 70 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

It weighs 6.2 pounds per gallon.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Apply fluorocarbon-water foam to diminish vapor and fire hazard

Neutralize with sodium bisulfate (nahso4)

Environmental considerations—water spill

Add sodium bisulfate
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

BUTYLENE, IMPURE, FOR FURTHER REFINING 4905711
(LIQUEFIED PETROLEUM GAS)
FLAMMABLE GAS UN1075

Butylene is a colorless gas with a faint petroleum like odor. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapor is heavier than air and a flame can flash back to the source of leak very easily. The leak can either be a liquid or vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinder or tank car may violently rupture and rocket.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
- If material leaking (not on fire), downwind evacuation must be considered

**BUTYRALDEHYDE
FLAMMABLE LIQUID**

**4908119
UN1129**

Butyraldehyde is a clear liquid with a pungent odor. It has a flash point of 10 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

**BUTYRIC ACID
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

**4931414
UN2820**

Butyric acid is a colorless liquid with an odor of rancid butter. It is combustible and has a flash point of 161 deg. F. It is soluble in water. It is corrosive to metals and tissue.

It weighs 8.0 pounds per gallon.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

**BUTYRONITRILE (FLAMMABLE LIQUID, N.O.S.)
FLAMMABLE LIQUID**

**4909241
UN1993**

Butyronitrile is a clear colorless liquid. It is used in the manufacture of other chemicals. It has a flash point of 76 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

CADMIUM ACETATE 4962303
ORM-E NA2570
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Cadmium acetate is a colorless crystallite solid. It is used in ceramics and in chemical analysis. It is soluble in water. It is non-combustible.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Add ferric chloride (fcl3)
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CADMIUM BROMIDE 4962305
ORM-E NA2570
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Cadmium bromide is a white to yellow crystalline solid. It is used in photography, printing, and lithography. It is soluble in water. It is non-combustible.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Add ferric chloride (fcl3)
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CADMIUM CHLORIDE 4962505
ORM-E NA2570
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Cadmium chloride is a white crystalline solid. Cadmium chloride is used in photography, in fabric printing, in chemical analysis, and in many other uses. It is soluble in water. It is non-combustible.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Add ferric chloride (fcl3)
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CALCIUM ARSENATE AND SULPHUR, DRY (CALCIUM ARSENATE) 4923218
POISON B UN1573
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Calcium or lead, arsenate and sulfur, dry is a yellow white to yellow powder. It is insoluble in water. It is toxic by inhalation (dust) and by ingestion.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Add ferric chloride (fcl3)
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CALCIUM ARSENATE, SOLID 4923217
POISON B UN1573
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Calcium arsenate solid is a white powder. It is very slightly soluble in water. It is toxic by inhalation (dust) and by ingestion.

MCD 000017023

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water

Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone,
 or sodium bicarbonate
 Add ferric chloride (fcl3)
 Adjust ph to neutral (ph-7)
 Use mechanical dredges or lifts to remove immobilized masses of
 pollutants and precipitates

**CALCIUM BISULFITE SOLUTION (See CALCIUM HYDROGEN
 SULFITE SOLUTION 4932331)**

CALCIUM CARBIDE 4916408
FLAMMABLE SOLID UN1402
WATER REACTIVE
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
 Calcium carbide exists as a greyish-black irregular lump solid. It is
 used to make acetylene and in steel manufacture. It reacts with water
 to form calcium hydroxide and acetylene, a flammable gas. The heat
 from this reaction may be sufficient to ignite the acetylene.

If material on fire or involved in fire
 Do not use water
 Use graphite, soda ash, powdered sodium chloride, or suitable dry
 powder
 Carbon dioxide may be ineffective

If material not on fire and not involved in fire
 Do not use water
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep material dry

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water

Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone,
 or sodium bicarbonate

CALCIUM CHLORATE 4918713
OXIDIZER UN1452
 Calcium chlorate is a white crystalline solid. It is used in photography,
 in pyrotechnics, and as a herbicide. It is soluble in water. It forms a very
 flammable mixture with combustible materials and this mixture may be
 explosive if the combustible material is finely divided. The mixture can
 be ignited by friction. Contact with strong sulfuric acid can cause fires
 or explosions. When mixed with ammonium salts, spontaneous decom-
 position and ignition may result. Prolonged exposure of the material to
 fire or heat can result in an explosion.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 2500 feet

CALCIUM CHLORITE 4918714
OXIDIZER UN1453
 Calcium chlorite is a white granular solid. It is decomposed by water
 to calcium hydroxide and chlorine dioxide, a nonflammable oxidizing
 gas. The material itself is non-combustible, but it will accelerate the
 burning of combustible materials. If the combustible material is finely
 divided, the mixture may be explosive. Prolonged exposure of the ma-
 terial to fire or heat may result in an explosion and the rupturing of the
 containers.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 2500 feet

CALCIUM CHROMATE 4963307
ORM-E NA9096
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
 Calcium chromate is a yellow powder. It is slightly soluble in water.
 It is inhibitor, and for other uses. It is slightly soluble in water. It is non-
 combustible.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)

Continued on next page

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Add sodium bisulfite
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CALCIUM CYANIDE, SOLID (OR) CALCIUM CYANIDE MIXTURE, SOLID 4923223

POISON B UN1575
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)

Calcium cyanide, solid is a white crystalline powder or crystalline solid. It is slowly decomposed by water to give off hydrogen cyanide, a flammable poison gas. Contact with acids will cause rapid evolution of hydrogen cyanide. It is toxic by skin absorption through open wounds, by ingestion, and by inhalation of hydrogen cyanide from the decomposition of the material.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use foam, carbon dioxide or dry chemical
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors

If material not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Use water spray to knock-down vapors
Do not use water on material itself

Personnel protection
Avoid breathing vapors or dusts
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Add caustic soda
Add calcium hypochlorite
Adjust ph to neutral (ph-7)

CALCIUM DODECYLBENZENESULFONATE 4963309
ORM-E NA9097

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Calcium dodecylbenzenesulfonate is a white to light yellow granular solid. It is used as a detergent. It is soluble in water. It is non-combustible.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CALCIUM HYDROGEN SULFITE SOLUTION (CALCIUM BISULPHITE) 4932331

CORROSIVE MATERIAL, ACIDIC NA2693

Calcium hydrogen sulfite solution is actually the solution of calcium sulfite and sulfur dioxide in water. It is a colorless to yellow liquid with an odor of sulfur dioxide. It is corrosive to metals.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

CALCIUM HYPOCHLORITE MIXTURE (DRY, CONTAINING MORE THAN 39 PERCENT AVAILABLE CHLORINE) 4918715

OXIDIZER UN1748
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)

Calcium hypochlorite mixture is a white granular solid or tablets compressed from the granules with an odor of chlorine. It is used in water purifica purification, as a swimming pool disinfectant, as a bleaching compound, and for many other uses. It is noncombustible but it will accelerate the burning of combustible materials. It is decomposed by water with evolution of chlorine gas and heat. Prolonged exposure to fire or heat may result in the vigorous decomposition of the material and the rupture of its container. Material containing less than 39 percent available chlorine will undergo reactions as described above though it may take longer to initiate and the resulting reactions may not be as vigorous.

If material on fire or involved in fire
Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Personnel protection
Avoid breathing dusts
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution
Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 5000 feet
Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water
Environmental considerations—water spill
Add sodium bisulfite
Add soda ash
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CALCIUM HYPOCHLORITE, HYDRATED (MINIMUM 5.5% BUT NOT MORE THAN 10% WATER, AND CONTAINING MORE THAN 39% AVAILABLE CHLORINE) 4918795

OXIDIZER UN2880
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)

Calcium hypochlorite, hydrated is a white granular solid or tablets compressed from the granules having an odor of chlorine. It is used for water purification, disinfectant for swimming pools, for bleaching paper and textiles, and for many other uses. It is non-combustible, but it will accelerate the burning of combustible materials. It is decomposed by water with evolution of chlorine gas and heat. Prolonged exposure to fire or heat may result in the vigorous decomposition of the material and rupture of the container. Material containing less than 39% available chlorine will undergo reactions as described above though it may take longed to initiate, and the resulting reactions may not be as vigorous.

If material on fire or involved in fire
Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Personnel protection
Avoid breathing dusts
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 5000 feet
Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water
Environmental considerations—water spill
Add sodium bisulfite
Add soda ash
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CALCIUM METAL 4916401
FLAMMABLE SOLID UN1401
WATER REACTIVE

Calcium metal is a silvery, soft metal that oxidizes to greyish white on exposure to air. It is used in metallurgy. It is decomposed by water to form calcium hydroxide and hydrogen, a flammable gas. The heat of this reaction may be sufficient to ignite the hydrogen and possibly the calcium itself.

If material on fire or involved in fire
Do not use water
Do not use carbon dioxide
Use graphite, soda ash, powdered sodium chloride, or suitable dry powder
If material not on fire and not involved in fire
Do not use water
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry
Personnel protection
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Avoid breathing fumes from burning material

CALCIUM NITRATE 4918716
OXIDIZER UN1454

Calcium nitrate is a white to light grey granular solid. It is used in fertilizers, explosives and pyrotechnics. It is soluble in water. It is non-combustible but it will accelerate the burning of combustible materials. If large quantities are involved in the fire or the combustible material is finely divided an explosion may result. Prolonged exposure of the material to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material.

If material on fire or involved in fire
Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Personnel protection
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 2500 feet

CALCIUM PERMANGANATE 4918718
OXIDIZER UN1456

Calcium permanganate is a purplish colored crystalline solid. It is used as a disinfectant and deodorizer, in water purification, and for many other uses. It is soluble in water. The material itself is noncombustible but it will accelerate the burning of combustible material; if the combustible material is finely divided the mixture may be explosive. Contact with liquid combustible materials may result in spontaneous ignition. Contact with sulfuric acid may cause fires or explosions.

If material on fire or involved in fire
Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If fire becomes uncontrollable—evacuate for a radius of 2500 feet

CALCIUM PEROXIDE 4918717
OXIDIZER UN1457

Calcium peroxide is a greyish white granular material. It is used in baking, in medicine, in bleaching oils, and for many other uses. It is insoluble in water and slowly decomposed by water. It is noncombustible but it will accelerate the burning of combustible material; if the combustible material is finely divided the mixture may be explosive. Mixtures of combustible material and the peroxide can be ignited by friction or contact with moisture.

If material on fire or involved in fire
Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If fire becomes uncontrollable—evacuate for a radius of 2500 feet

CALCIUM PHOSPHIDE 4916310
FLAMMABLE SOLID, POISONOUS UN1360
WATER REACTIVE

Calcium phosphide appears as red-brown crystals to grey granular lumps. It reacts with water to form calcium hydroxide and phosphine, a flammable poisonous gas. Phosphine will normally ignite spontaneously in contact with air. If there is an excess of water this fire of phosphine will not normally ignite surrounding combustible material.

If material on fire or involved in fire
Do not use water
Use dry chemical or carbon dioxide

If material not on fire and not involved in fire
Do not use water
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry

Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

CALCIUM RESINATE 4916703
FLAMMABLE SOLID UN1313

Calcium resinate is a greyish white to yellow amorphous powder. If it comes in contact with air, spontaneous heating may result. This heat may be sufficient to ignite the material itself or surrounding combustible material. It is insoluble in water.

If material on fire or involved in fire
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CALCIUM RESINATE, FUSED 4916704
FLAMMABLE SOLID UN1314

Calcium resinate, fused is in the form of greyish lumps made by fusing the powdered material. If it comes in contact with air, spontaneous heating may result. This heat may be sufficient to ignite the material itself or surrounding combustible material. It is insoluble in water.

If material on fire or involved in fire
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CALCIUM-MANGANESE-SILICON ALLOYS, 4916767
(FLAMMABLE SOLID, N.O.S.)
FLAMMABLE SOLID UN1325

Calcium-manganese-silicon alloys exist as grey lustrous crystalline lumps. It may react with water to give off hydrogen, a flammable gas. The heat of this reaction may be sufficient to ignite the hydrogen.

If material on fire or involved in fire
 Do not use water
 Use graphite, soda ash, powdered sodium chloride, or suitable dry powder

If material not on fire and not involved in fire
 Do not use water
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep material dry

Personnel protection
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Avoid breathing fumes from burning material

CALCIUM, METAL CRYSTALLINE **4916402**
FLAMMABLE SOLID **NA1401**
WATER REACTIVE

Calcium, metal, crystalline is a greyish white granular metal. It is used in metallurgy. As it is finely divided it is more reactive with water than non-crystalline metallic calcium. It reacts with water to form hydrogen, a flammable gas. The heat of this reaction may be sufficient to ignite the hydrogen and also the calcium itself.

If material on fire or involved in fire
 Do not use water
 Do not use carbon dioxide
 Use graphite, soda ash, powdered sodium chloride, or suitable dry powder

If material not on fire and not involved in fire
 Do not use water
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep material dry

Personnel protection
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Avoid breathing fumes from burning material

CALCIUM ARSENITE, SOLID **4923219**
POISON B **NA1574**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Calcium arsenite, solid is a white powder. It is insoluble in water. It is toxic by inhalation (dust) and by ingestion.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Add calcium hypochlorite
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
 Add ferric chloride (FeCl3)
 Adjust pH to neutral (pH-7)
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CAMPOR OIL **4913153**
COMBUSTIBLE LIQUID **UN1130**

Camphor oil is a colorless liquid with a characteristic odor. It has a flash point of 125 deg. F. It is insoluble in water and it is generally lighter than water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

CANNON PRIMERS **4903120**
CLASS C EXPLOSIVE

Cannon primer is a small device containing a small amount of a percussion sensitive explosive which ignites a large charge of deflagrating explosive which in turn ignites the gun propellant.

If material on fire or involved in fire
 Flood with water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Approach fire with caution
 Avoid breathing dusts, and fumes from burning material
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 1500 feet

**CAPRYLYL PEROXIDE SOLUTION
ORGANIC PEROXIDE**

**4919517
NA2129**

Caprylyl peroxide solution is a clear colorless to straw colored liquid with a sharp odor. The peroxide itself is a straw colored liquid. The solution may take some effort to ignite but once ignited it burns with increasing vigor as the fire progresses. It strongly supports the burning of combustible material. Containers of the solution, if exposed to fire or flame, may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors or dusts
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**CAPTAN (AGRICULTURAL INSECTICIDES, NEC,
LIQUID)**

4961167

**ORM-E
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)**

Captan is a white solid dissolved in a liquid carrier. It is used as a fungicide. It is a water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

- Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**CAPTAN (AGRICULTURAL INSECTICIDES, NEC,
OTHER THAN LIQUID)**

4961164

**ORM-E
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)**

Captan is a white solid. It is used as a fungicide. It is a wettable powder. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**CAPTAN (INSECTICIDES, OTHER THAN
AGRICULTURAL, NEC)**

4961110

**ORM-E
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)**

Captan is a white solid or the solid dissolved in a liquid carrier. It is used as a fungicide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

MCD 000017029

CARBAMATE PESTICIDE, LIQUID, N.O.S. 4921625
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, LIQUID)
POISON B UN2757

Carbamate pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may require some effort to ignite. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

CARBAMATE PESTICIDE, LIQUID, N.O.S. 4910527
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)

FLAMMABLE LIQUID UN2758

Carbamate pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wear self-contained breathing apparatus when fighting fires involving this material

CARBAMATE PESTICIDE, LIQUID, N.O.S. 4910528
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, LIQUID)
FLAMMABLE LIQUID UN2758

Carbamate pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wear self-contained breathing apparatus when fighting fires involving this material

CARBAMATE PESTICIDE, LIQUID, N.O.S. 4921624
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)

POISON B UN2757

Carbamate pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may require some effort to ignite. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

CARBAMATE PESTICIDE, SOLID, N.O.S. 4921627
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, OTHER
THAN LIQUID)

POISON B UN2757
Carbamate pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

CARBAMATE PESTICIDE, SOLID, N.O.S. 4921626
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL,
NEC)

POISON B UN2757
Carbamate pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

CARBARYL (AGRICULTURAL INSECTICIDES, NEC, 4941121
LIQUID)
ORM-A NA2757
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)

Carbaryl is a white crystalline solid dissolved in a liquid carrier. It is used as a pesticide. It is a water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Environmental considerations—water spill
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CARBARYL (AGRICULTURAL INSECTICIDES, NEC, 4941122
OTHER THAN LIQUID)

ORM-A NA2757
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Carbaryl is a white crystalline solid. It is used as a pesticide. It is a wettable powder. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CARBARYL (INSECTICIDES, OTHER THAN 4941120
AGRICULTURAL, NEC)

ORM-A NA2757
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Carbaryl is a white crystalline solid or the solid dissolved in a liquid carrier. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

MCD 000017031

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount
 in region of 10ppm or greater concentration
 Remove trapped material with suction hoses
 Use mechanical dredges or lifts to remove immobilized masses of
 pollutants and precipitates

CARBOFURAN 4921525
POISON B NA2757
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)

Carbofuran is a white solid or the solid dissolved in a liquid carrier.
 It is used as a pesticide. It is a wettable powder or water emulsifiable
 liquid. It is toxic by inhalation, skin absorption, and or ingestion. In case
 of damage to, or leaking from containers of this material contact the
 pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water

Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag
 barriers to trap material at bottom
 If dissolved, apply activated carbon at ten times the spilled amount
 in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of
 pollutants and precipitates

CARBOFURAN MIXTURE, LIQUID (AGRICULTURAL 4921524
INSECTICIDES, NEC, LIQUID)
POISON B NA2757
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)

Carbofuran mixture, liquid is a white solid dissolved in a liquid carrier.
 It is used as a pesticide. It is a water emulsifiable liquid. It is toxic by
 inhalation, skin absorption, and/or ingestion. In case of damage to, or
 leaking from containers of this material contact the pesticide safety team
 network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water

Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag
 barriers to trap material at bottom
 If dissolved, apply activated carbon at ten times the spilled amount
 in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of
 pollutants and precipitates

CARBOLIC ACID OR PHENOL 4921220
POISON B, CORROSIVE, COMBUSTIBLE UN1671
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Carbolic acid or phenol is a colorless crystalline solid with a charac-
 teristic odor. It is used to make plastics, adhesives, and other chemicals.
 It absorbs moisture from the air and liquefies. It is soluble in water and
 its vapor is heavier than air. It is also combustible. It is corrosive to the
 skin and lethal amounts can be absorbed through the skin.

It weighs 8.9 pounds per gallon.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Continued on next page

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CARBOLIC ACID, LIQUID OR PHENOL, LIQUID, 4921210
 (LIQUID TAR ACID CONTAINING OVER 50%
 BENZO-PHENOL)

POISON B, CORROSIVE, COMBUSTIBLE NA2821
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Carbolic acid, liquid or phenol, liquid is a colorless liquid with a characteristic odor. It is used to make plastics, adhesives, and other chemicals. It is also combustible. Its vapor is heavier than air and it is soluble in water. It is corrosive to the skin. Lethal quantities of the material can be absorbed through the skin.

It weighs 8.9 pounds per gallon.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard

Personnel protection

Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CARBON BISULFIDE (OR) CARBON DISULFIDE 4908125
FLAMMABLE LIQUID UN1131
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Carbon bisulfide is a clear colorless to light yellow liquid with a strong disagreeable odor. It is used in the manufacture of rayon and cellophane, in the manufacture of flotation agents and as a solvent. It has a flash point of -22 deg. F. and is flammable over a wide vapor-air concentration range. The vapors are readily ignited: the heat of a common light bulb may be sufficient. It is heavier than water and insoluble in water. Its vapors are heavier than air.

It weighs 10.5 pounds per gallon.

If material on fire or involved in fire

Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Use dry chemical or carbon dioxide
 Do not use water
 Do not extinguish fire unless flow can be stopped

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors
 Combustion products include corrosive or toxic vapors

CARBON BLACK OIL (COMBUSTIBLE LIQUID, N.O.S.) 4915323
COMBUSTIBLE LIQUID NA1993

Carbon black oil is a dark colored liquid with a petroleum-like odor. It has a flash point between 100 and 200 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

CARBON BLACK OIL (FLAMMABLE LIQUID, N.O.S.) 4910323
FLAMMABLE LIQUID UN1993
 Carbon black oil is a dark colored liquid with a petroleum like odor. It has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

CARBON DIOXIDE—OXYGEN MIXTURE 4904420
NONFLAMMABLE GAS UN1014
 Carbon dioxide—oxygen mixture is a colorless odorless gas. Both carbon dioxide and oxygen are noncombustible; however, oxygen can accelerate the burning of a fire. It may only be shipped in cylinders.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Attempt to stop leak if without hazard

Personnel protection
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Approach fire with caution

CARBON DIOXIDE-AIR MIXTURE (COMPRESSED GAS, N.O.S.) 4904510
NONFLAMMABLE GAS UN1956
 Carbon dioxide-air mixture is a colorless odorless gas mixture. It is noncombustible. It may only be shipped in cylinders.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not involved in fire
 Attempt to stop leak if without hazard

Personnel protection
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment

CARBON DIOXIDE-ETHYLENE OXIDE GAS MIXTURE 4904511
(COMPRESSED GAS, N.O.S.)
NONFLAMMABLE GAS UN1956
 Carbon dioxide-ethylene oxide mixture is a colorless gas with an ether-like odor. It is used as a fumigant. Carbon dioxide is noncombustible. Ethylene oxide is flammable. The mixture can asphyxiate by displacement of air. It may only be shipped in cylinders.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not involved in fire
 Attempt to stop leak if without hazard

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

CARBON DIOXIDE-ETHYLENE OXIDE MIXTURE 4905820
(COMPRESSED GAS, N.O.S.)
FLAMMABLE GAS UN1954
 Carbon dioxide-ethylene oxide is a colorless gas with an ether like odor. It is easily ignitable and may only be shipped in cylinders. Carbon dioxide is noncombustible and ethylene oxide is flammable. Both are heavier than air. A flame can flash back to the source of leak very easily. It can asphyxiate by the displacement of air. Under fire conditions cylinders may violently rupture and rocket.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

CARBON DIOXIDE-NITROGEN GAS MIXTURE 4904512
(COMPRESSED GAS, N.O.S.)
NONFLAMMABLE GAS UN1956
Carbon dioxide-nitrogen gas mixture is a colorless odorless gas. Both carbon dioxide and nitrogen are noncombustible. The mixture can asphyxiate by the displacement of air. It may only be shipped in cylinders.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Attempt to stop leak if without hazard
Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

CARBON DIOXIDE-NITROUS OXIDE MIXTURE 4904513
NONFLAMMABLE GAS UN1015
Carbon dioxide-nitrous oxide mixture is a colorless sweet tasting gas. Both carbon dioxide and nitrous oxide are noncombustible. The mixture can asphyxiate by the displacement of air. It may only be shipped in cylinders.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Attempt to stop leak if without hazard
Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

CARBON DIOXIDE-PROPYLENE OXIDE GAS MIXTURE 4904514
(COMPRESSED GAS, N.O.S.)
NONFLAMMABLE GAS UN1956
Carbon dioxide-propylene oxide gas mixture is a colorless gas with an ether like odor. Carbon dioxide is noncombustible. Propylene oxide is flammable. The mixture can separate with the flammable propylene oxide collecting in low areas. The mixture can asphyxiate by the displacement of air. It may only be shipped in cylinders.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Attempt to stop leak if without hazard
Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CARBON DIOXIDE-PROPYLENE OXIDE MIXTURE 4905815
(COMPRESSED GAS, N.O.S.)
FLAMMABLE GAS UN1954
Carbon dioxide propylene oxide mixture is a colorless odorless gas. It is easily ignited and may only be shipped in cylinders. Carbon dioxide is noncombustible and propylene oxide is flammable. Both are heavier than air. A flame can flash back to the source of leak very easily. It can asphyxiate by the displacement of air. Under fire conditions cylinders may violently rupture and rocket.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution
Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

CARBON DIOXIDE, LIQUEFIED 4904509
NONFLAMMABLE GAS UN2187
Carbon dioxide, liquefied is a colorless liquid. It is used as a refrigerant, in fire extinguishers, and in making carbonated beverages. It is non-combustible. Contact with the liquid will cause frostbite. The gas is heavier than air and can asphyxiate by the displacement of air.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Do not use water on material itself
Apply water from as far a distance as possible
If material not involved in fire
Attempt to stop leak if without hazard
Do not use water on material itself
Personnel protection
Avoid breathing vapors
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

CARBON MONOXIDE 4905709
FLAMMABLE GAS UN1016
Carbon monoxide is a colorless, odorless gas. Prolonged exposure to carbon monoxide rich atmospheres may be fatal. It is easily ignited and may be shipped only in cylinders. It is just lighter than air and a flame can flash back to the source of leak very easily. Under fire conditions the cylinders may violently rupture and rocket.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

CARBON REMOVER, LIQUID 4910130
FLAMMABLE LIQUID UN1132
 Carbon remover is a colorless liquid with a petroleum-like odor. It has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

CARBON TETRACHLORIDE 4940320
ORM-A UN1846
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
 Carbon tetrachloride is a clear colorless heavy liquid with a characteristic odor. It is used as a solvent, in the manufacture of other chemicals, as an agricultural fumigant, and for many other uses. It is heavier than water and insoluble in water. It is non-combustible. It can cause illness by inhalation, skin absorption and/or ingestion. It weighs 13.2 pounds per gallon.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
 Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
 Remove trapped material with suction hoses
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Vapor knockdown water is corrosive or toxic and should be diked for containment
 Thermal decomposition to phosgene can occur

CARTRIDGE CASES, EMPTY, PRIMED 4903140
CLASS C EXPLOSIVE
 Cartridge cases, empty, primed consist of small arms cartridge cases, containing no propellant or projectile, with a smallarms primer attached to the base.

If material on fire or involved in fire
 Flood with water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Approach fire with caution
 Avoid breathing dusts, and fumes from burning material
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 1500 feet

CARTRIDGE, PRACTICE AMMUNITION 4903150
CLASS C EXPLOSIVE
 Cartridge, practice ammunition consists of a metal cartridge case, primed with a limited amount of propelling charge and a solid projectile or solid projectile with smoke spotting charge.

If material on fire or involved in fire
 Flood with water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Approach fire with caution
 Avoid breathing dusts, and fumes from burning material
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 1500 feet

CAUSTIC POTASH, DRY, SOLID, FLAKE, BEAD, OR GRANULAR (See POTASSIUM HYDROXIDE, DRY, SOLID, FLAKE, BEAD, OR GRANULAR 4935225)

CAUSTIC POTASH, LIQUID OR SOLUTION (See POTASSIUM HYDROXIDE, SOLUTION 4935230)

CAUSTIC SODA AND CAUSTIC POTASH, MIXED, IN SOLUTION (POTASSIUM HYDROXIDE, LIQUID, OR SOLUTION) 4935244
CORROSIVE MATERIAL UN1814
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Caustic soda and caustic potash, mixed, in solution is a white solid dissolved in water. it is used in chemical manufacturing, petroleum refining, cleaning compounds, and for many other uses. It is corrosive to metals and tissue. It is non-combustible.

It weighs 12.8 pounds per gallon.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing vapors or dusts

Avoid bodily contact with the material

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Neutralize with vinegar or other dilute acid

Environmental considerations—water spill

Neutralize with dilute acid or removable strong acid

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

CAUSTIC SODA AND CAUSTIC POTASSIUM, MIXED, IN SOLUTION (SODIUM HYDROXIDE LIQUID (OR) SOLUTION) 4935245
CORROSIVE MATERIAL UN1824
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Caustic soda and caustic potassium, mixed, in solution is the white solid material dissolved in water. It is non-combustible. It dissolves in water with release of heat. It is corrosive to metals and tissue.

It weighs 12.7 pounds per gallon.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Personnel protection

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Neutralize with vinegar or other dilute acid

Environmental considerations—water spill

Neutralize with dilute acid or removable strong acid

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

CAUSTIC SODA SOLUTION SPENT (SODIUM HYDROXIDE SOLUTION) 4935206
CORROSIVE MATERIAL, BASIC UN1824
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Caustic soda solution, spent is a colorless to dark colored liquid. It is at least partially soluble in water with release of heat. It is corrosive to metals and tissue.

It weighs 12.7 pounds per gallon.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Personnel protection

Avoid breathing vapors

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Neutralize with vinegar or other dilute acid

Environmental considerations—water spill

Neutralize with dilute acid or removable strong acid

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

CAUSTIC SODA, DRY, SOLID, FLAKE, BEAD, OR GRANULAR (See SODIUM HYDROXIDE, DRY, SOLID, FLAKE, BEAD, OR GRANULAR 4935235)

CAUSTIC SODA, LIQUID OR SOLUTION (See SODIUM HYDROXIDE, SOLUTION 4935240)

CELLULOSE FILM, NEC, PRINTED, (FLAMMABLE SOLID, N.O.S.) 4917397

FLAMMABLE SOLID UN1325

Cellulose film, nec, printed is a flammable solid when made of nitro-cellulose. It is then easily ignited and burns with great rapidity. Older film may deteriorate and be liable to spontaneous heating and ignition. Toxic oxides of nitrogen are produced during combustion.

If material on fire or involved in fire

Flood with water

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

CEMENT OR CONCRETE WATER PROOFING COMPOUNDS, LIQUID OR PASTE (COMBUSTIBLE LIQUID, N.O.S.) 4915462

COMBUSTIBLE LIQUID NA1993

Cement or concrete water proofing compounds, liquid or paste are materials containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of these materials is combustibility.

MCD 000017037

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

CEMENT OR CONCRETE WATER PROOFING COMPOUNDS, LIQUID OR PASTE (FLAMMABLE LIQUID, N.O.S.) **4910462**

FLAMMABLE LIQUID **UN1993**
 Cement or concrete water proofing compounds, liquid or paste are materials containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of these materials is flammability.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

CEMENT, ADHESIVE, N.O.S. COMBUSTIBLE LIQUID (See CEMENT, LIQUID, N.O.S., COMBUSTIBLE LIQUID 4915114)

CEMENT, ADHESIVE, N.O.S., FLAMMABLE LIQUID (See CEMENT, LIQUID, N.O.S., FLAMMABLE LIQUID 4910114)

CEMENT, CONTAINER LINOLEUM, TILE, OR WALLBOARD, LIQUID **4910112**

FLAMMABLE LIQUID **NA1133**
 Cement, container linoleum, tile, or wallboard, liquid are the solutions of various gums, resins etc. in different solvents. The liquids are generally quite thick and may range from clear colorless to black "tar," the flash point of the cement depends on the solvent used but it will be less than 100 deg. F.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

CEMENT, CORK, INSULATION, LIQUID (CEMENT, LIQUID, N.O.S.) **4910458**

FLAMMABLE LIQUID **NA1133**
 Cement, cork, insulation, liquid is a solution of various gums and resins in various solvents. The liquids are generally quite thick and range from clear colorless to black "tar". The flash point depends on the solvents used; but it will be below 100 deg. F. The hazard of these materials is flammability.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

CEMENT, CORK, INSULATION, LIQUID (CEMENT, LIQUID, N.O.S.) **4915458**

COMBUSTIBLE LIQUID **NA1133**
 Cement, cork, insulation, liquid is a solution of various gums and resins in various solvents. The liquids are generally quite thick and range from clear colorless to black "tar." the flash point depends on the solvents used but it will be between 100 and 199 deg. F. The hazard of these materials is combustibility.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

CEMENT, LEATHER 4910110
FLAMMABLE LIQUID NA1133

Cement, leather is the solution of various gums and resins in various solvents. The liquids are generally quite thick and may range from clear colorless to black "tar". The flash point of the cement depends on the solvent used but it will be less than 100 deg. F.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

CEMENT, LIQUID, N.O.S. 4910114
FLAMMABLE LIQUID NA1133

Cement, liquid, n.o.s. are solutions of various gums and resins in various solvents. The liquids are generally quite thick and may range from clear to black "tar". The flash point of the cement depends on the solvent used but it will be less than 100 deg. F.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

CEMENT, LIQUID, N.O.S. 4915114
COMBUSTIBLE LIQUID NA1133

Cement, liquid, n.o.s. are solutions of various gums and resins in various solvents. The liquids are generally quite thick and may range from clear to black "tar". The flash point of the cement depends on the solvent used but it will be between 100 and 199 deg. F.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

CEMENT, PYROXYLIN 4910116
FLAMMABLE LIQUID NA1133

Cement pyroxylin is pyroxylin plastic dissolved in a solvent. The flash point of the cement depends upon the solvent used but it will be less than 100 deg. F. The film deposited by the evaporation of the solvent is easily ignited and once ignited burns with great rapidity.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

CEMENT, ROOFING, LIQUID 4910118
FLAMMABLE LIQUID NA1133

Cement, roofing, liquid is a solution of various gums and resins in various solvents. The liquids are quite thick and are generally black "tars". The flash point of the cement depends on the solvent used but it will be less than 100 deg. F.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**CEMENT, RUBBER
FLAMMABLE LIQUID**

**4910120
NA1133**

Cement, rubber is a solution of various gums and resins in various solvents. The liquid is quite thick and is generally a milky white color. The flash point of the cement depends upon the solvent used but it will be less than 100 deg. F.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**CESIUM METAL
FLAMMABLE SOLID
WATER REACTIVE**

**4916405
UN1407**

Cesium metal is a silver white metal readily tarnished greyish white by air. It is used in electronics, as a catalyst in chemical processing, and for many other uses. It melts at 82 deg. F. It is violently decomposed by water giving cesium hydroxide and hydrogen, a flammable gas. The heat of this decomposition may be sufficient to ignite the hydrogen.

If material on fire or involved in fire

- Do not use water
- Do not use carbon dioxide
- Use graphite, soda ash, powdered sodium chloride, or suitable dry powder

If material not on fire and not involved in fire

- Do not use water
- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep material dry
- Do not attempt to sweep up dry material

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Avoid breathing fumes from burning material

**CHAMPAGNE (ALCOHOLIC BEVERAGE)
FLAMMABLE LIQUID**

**4910345
UN1170**

Champange is a variable colored bubbling liquid having the odor characteristic of fermented liquors. It has a flash point between 73 and 100 deg. F. It is soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**CHAMPAGNE (ALCOHOLIC BEVERAGE)
COMBUSTIBLE LIQUID**

**4915312
UN1170**

Champange is a variable colored bubbling liquid having the odor characteristic of fermented liquors. It has a flash point between 100 and 199 deg. F. It is soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**CHARCOAL BRIQUETTES (CHARCOAL BRIQUETTES
OR PELLETS, WITH PETROLEUM BINDER)
FLAMMABLE SOLID**

**4917311
NA1361**

Charcoal briquettes are powdered or granular charcoal mixed with a tar or starch and water binder and pressed into regular lumps. The hazard is that of spontaneous heating if the charcoal briquettes are not properly cooled after manufacture.

If material on fire or involved in fire

- Remove burning material from load if safe and practicable to do so
- Use dry chemical or carbon dioxide
- Use water only if flooding quantities are available

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material dry

**CHARCOAL BRIQUETTES (CHARCOAL BRIQUETTES
OR PELLETS, WITHOUT PETROLEUM BINDER)
FLAMMABLE SOLID**

**4917312
NA1361**

Charcoal briquettes are powdered or granular charcoal mixed with a tar or starch and water binder and pressed into regular lumps. The hazard is that of spontaneous heating if the charcoal briquettes are not properly cooled after manufacture.

Continued on next page

If material on fire or involved in fire
Remove burning material from load if safe and practicable to do so
Use dry chemical or carbon dioxide
Use water only if flooding quantities are available
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material dry

CHARCOAL BRIQUETTES (CHARCOAL BRIQUETTES, COMPRESSED, SELF-IGNITING) 4917313
FLAMMABLE SOLID NA1361
Charcoal briquettes are powdered or granular charcoal mixed with a tar or starch and water binder and pressed into regular lumps. The hazard is that of spontaneous heating if the charcoal briquettes are not properly cooled after manufacture.
If material on fire or involved in fire
Remove burning material from load if safe and practicable to do so
Use dry chemical or carbon dioxide
Use water only if flooding quantities are available
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material dry

CHARCOAL SCREENINGS, MADE FROM "PINON" WOOD 4917320
FLAMMABLE SOLID NA1361
Charcoal screenings, made from "pinon" wood is a finely divided black solid. It is fairly easily ignited. The main hazard is that of spontaneous heating if the charcoal has not been properly cooled after manufacture.
If material on fire or involved in fire
Remove burning material from load if safe and practicable to do so
Use dry chemical or carbon dioxide
Use water only if flooding quantities are available
If material not on fire and not involved in fire
Keep material dry

CHARCOAL, ACTIVATED 4917310
FLAMMABLE SOLID UN1362
Charcoal, activated is a black granular material that has been treated to improve its absorptive ability. The hazard is that of spontaneous heating if the charcoal is not properly cooled after manufacture.
If material on fire or involved in fire
Remove burning material from load if safe and practicable to do so
Do not use carbon dioxide
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material dry

CHARCOAL, CORN COB OR COTTONSEED OR RICE HULL, NOT ACTIVATED (CHARCOAL, SHELL) 4917394
FLAMMABLE SOLID UN1325
Charcoal, corn cob or cottonseed or rice hull, not activated is a black solid. The hazard in transportation is that of spontaneous heating if the material is not properly cooled after manufacture, or if it should become wet.
If material on fire or involved in fire
Remove burning material from load if safe and practicable to do so
Use dry chemical or carbon dioxide
Use water only if flooding quantities are available
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material dry

CHARCOAL, OTHER THAN ANIMAL OR WOOD, NEC, NOT ACTIVATED, (FLAMMABLE SOLID, N.O.S.) 4917395
FLAMMABLE SOLID UN1325
Charcoal, other than animal or wood, nec, not activated is a black solid. The hazard in transportation is that of spontaneous heating if the material is not properly cooled after manufacture or if it should become wet.
If material on fire or involved in fire
Remove burning material from load if safe and practicable to do so
Use dry chemical or carbon dioxide
Use water only if flooding quantities are available
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material dry

CHARCOAL, SHELL 4917314
FLAMMABLE SOLID NA1361
Charcoal, shell is made from coconut shells, walnut shells, fruit pits, or other similar material. The hazard is that of spontaneous heating if the charcoal is not properly cooled after manufacture.
If material on fire or involved in fire
Remove burning material from load if safe and practicable to do so
Use dry chemical or carbon dioxide
Use water only if flooding quantities are available
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material dry

CHARCOAL, WOOD SCREENINGS, OTHER THAN "PINON" WOOD SCREENINGS 4917322
FLAMMABLE SOLID NA1361
Charcoal, wood screenings, other than "pinon" wood screenings is a finely divided black solid. It is fairly easily ignited. The main hazard is that of spontaneous heating if the charcoal has not been properly cooled after manufacture.
If material on fire or involved in fire
Remove burning material from load if safe and practicable to do so
Use dry chemical or carbon dioxide
Use water only if flooding quantities are available
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material dry

CHARCOAL, WOOD, GROUND, CRUSHED, GRANULATED, (OR) PULVERIZED 4917316
FLAMMABLE SOLID NA1361
Charcoal, wood, ground, crushed, granulated, or pulverized is a finely divided black solid. It is fairly easily ignited. The main hazard is that of spontaneous heating if the charcoal has not been properly cooled after manufacture.
If material on fire or involved in fire
Remove burning material from load if safe and practicable to do so
Use dry chemical or carbon dioxide
Use water only if flooding quantities are available
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material dry

CHARCOAL, WOOD, LUMP 4917318
FLAMMABLE SOLID NA1361
Charcoal, wood, lump is large pieces of black material. The hazard in transportation is that of spontaneous heating if the charcoal has not been properly cooled after manufacture.

MCD 000017041

If material on fire or involved in fire
 Remove burning material from load if safe and practicable to do so
 Use dry chemical or carbon dioxide
 Use water only if flooding quantities are available
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material dry

CHEMICAL AMMUNITION, NONEXPLOSIVE (CONTAINING A POISON A MATERIAL). **4920925**
POISON A **UN2016**
 Chemical ammunition, nonexplosive (containing a poison a material) may be any type of projectile, bomb, grenade, etc. containing a material classed as poison a, and does not contain any explosive components- the poison a material can cause death by inhalation or skin absorption. Of very small quantities. It may or may not be combustible.
If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

CHEMICAL AMMUNITION, NONEXPLOSIVE (CONTAINING A POISON B MATERIAL) **4923915**
POISON B **UN2016**
 Chemical ammunition, nonexplosive (containing a poison b material) may be any type of projectile, bomb, grenade, etc. containing a material classed as a poison b, and does not contain any explosive components. The poison b material can cause death by inhalation, ingestion or skin absorption. The poison b material may or may not be combustible.
If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Use foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

CHEMICAL AMMUNITION, NONEXPLOSIVE (CONTAINING AN IRRITATING MATERIAL) **4925840**
IRRITATING MATERIAL **UN2017**
 Chemical ammunition, nonexplosive (containing an irritating material) may be any type of projectile, bomb, grenade, etc. containing a substance classed as an irritating material, and does not contain any explosive components. The irritating material gives off fumes that are extremely irritating to the eyes and mucous membranes when exposed to air or contact with fire. It may or may not be combustible.
If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Use foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

CHEMICAL KIT **4936548**
CORROSIVE MATERIAL **NA1760**
 Chemical kit is a package containing limited quantities of various corrosive materials. They are generally non-combustible and soluble in water with release of heat. They are corrosive to metals and tissue.
If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
Personnel protection
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

CHEMICAL PLANT WASTE (COMBUSTIBLE LIQUID, N.O.S.) **4915560**
COMBUSTIBLE LIQUID **NA1993**
 Chemical plant waste, nec is a clear to variable colored liquid which may have a pleasant or unpleasant odor. It has a flash point of between 100 and 199 deg. F. It may be insoluble, partially soluble, or soluble in water. It may be heavier or lighter than water. Its vapors are heavier than air. Contact the shipper to determine the specific constituents and properties of this material.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CHEMICAL PLANT WASTE, NEC (CORROSIVE LIQUID, N.O.S.) 4936538
CORROSIVE MATERIAL UN1760

Chemical plant waste, nec is a clear to variable colored liquid. It is usually soluble in water. It may burn though it may require some effort to ignite. It is corrosive to metals and tissue. Contact the shipper to determine the specific constituents and properties of this material.

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

CHEMICAL PLANT WASTE, NEC (FLAMMABLE LIQUID, N.O.S.) 4910560
FLAMMABLE LIQUID UN1993

Chemical plant waste, nec is a clear to variable colored liquid and may have a pleasant or unpleasant odor. It has a flash point of less than 100 deg. F. It may be insoluble, partially soluble, or soluble in water. It may be heavier or lighter than water. Its vapors are heavier than air. Contact the shipper to determine the specific constituents and properties of this material.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CHEMICAL PLANT WASTE, NEC (POISONOUS LIQUID, N.O.S.) 4923370
POISON B NA2810

Chemical plant waste, nec is a variable colored liquid. It may or may not be water soluble. It may burn though it may require some effort to ignite. It is toxic by ingestion, inhalation (vapors, mist, etc.) or by skin absorption. Contact the shipper to determine the specific constituents and properties of this material.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If material leaking (not on fire), downwind evacuation must be considered

CHLORAL (CORROSIVE LIQUID, N.O.S.) 4935515
CORROSIVE MATERIAL UN1760

Chloral is a colorless oily liquid with a strong pungent odor. It is used to make chloral hydrate and ddt. It is heavier than water and is soluble in water. Its vapors are heavier than air. It is corrosive to tissue.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use water spray to absorb vapors

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**CHLORATE AND BORATE MIXTURE
OXIDIZER****4918719
UN1458**

Chlorate and borate mixture is usually a white crystalline solid. It may only be partially soluble in water. It forms a very flammable mixture with combustible materials and this mixture may be explosive if the combustible material is very finely divided. The mixture can be ignited by friction. Contact with strong sulfuric acid can cause fires or explosions. When mixed with ammonium salts, spontaneous decomposition and ignition may result. Prolonged exposure of the material to fire or heat can result in an explosion.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 2500 feet

**CHLORATE AND MAGNESIUM CHLORIDE MIXTURE
OXIDIZER****4918720
UN1459**

Chlorate and magnesium chloride mixture is a white crystalline solid. It is soluble in water. It forms a very flammable mixture with combustible materials and this mixture may be explosive if the combustible material is very finely divided. The mixture can be ignited by friction. Contact with strong sulfuric acid can cause fires or explosions. When mixed with ammonium salts, spontaneous decomposition and ignition may result. Prolonged exposure of the material to fire or heat can result in an explosion.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 2500 feet

**CHLORATE OF POTASH (See POTASSIUM
CHLORATE 4918722)****CHLORATE OF SODA (See SODIUM CHLORATE
4918723)****CHLORATE, N.O.S.
OXIDIZER****4918721
UN1461**

Chlorate, n.o.s. is a crystalline compound having the following properties. The material is soluble in water. It forms a very flammable mixture with combustible materials and this mixture may be explosive if the combustible material is finely divided. The mixture can be ignited by friction. Contact with strong sulfuric acid can cause fires or explosions. When mixed with ammonium salts, spontaneous decomposition and ignition may result. Prolonged exposure to fire or heat can result in an explosion.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 2500 feet

**CHLORATE, N.O.S., WET
OXIDIZER****4918610
NA1461**

Chlorate, n.o.s., wet is a slurry or sludge of white crystalline compounds which have the following properties. The material is soluble in water. The material itself is noncombustible, but it can form a very flammable mixture with combustible materials, and this mixture may be explosive if the combustible material is very finely divided. The mixture can be ignited by friction. Contact with strong sulfuric acid can cause fires or explosions. When mixed with ammonium salts, spontaneous decomposition and ignition may result. Prolonged exposure of the material to heat or fire can result in an explosion.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 1500 feet

CHLORDANE, LIQUID 4909320
FLAMMABLE LIQUID NA2762
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Chlordane, liquid is the solution of chlordane, a clear colorless, odorless liquid in some solvent. It is used as an insecticide. It has a flash point of less than 100 deg. F. depending on the solvent and the concentration of chlordane; chlordane itself does not burn. It is generally heavier than water and insoluble in water. Its vapors are heavier than air.

It weighs 13.3 pounds per gallon.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Do not extinguish fire unless flow can be stopped
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
- Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Combustion products include corrosive or toxic vapors

CHLORDANE, LIQUID 4913170
COMBUSTIBLE LIQUID NA2762
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Chlordane, liquid is the solution of chlordane, a clear colorless, odorless liquid in a solvent. It has a flash point between 100 and 199 deg. F. It is generally heavier than water and insoluble in water. Its vapors are heavier than air.

It weighs 13.3 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
- Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Combustion products include corrosive or toxic vapors

CHLORIC ACID 4918206
OXIDIZER, CORROSIVE NA2626

Chloric acid is a colorless liquid. It is used as a reagent in chemical analysis and to make other chemicals. It will accelerate the burning of combustible materials and can ignite most on contact. It is corrosive to metals and tissue.

If material involved in fire

- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 1500 feet

CHLORINATED LIME, LIQUID (CORROSIVE LIQUID, N.O.S.) 4932332

CORROSIVE MATERIAL, ACIDIC UN1760

Chlorinated lime, liquid is the water solution of calcium chloride and calcium hypochlorite. It has an odor of chlorine. It is corrosive to metals and to tissue.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

CHLORINATED PHENOL PETROLEUM SOLUTION (POISONOUS LIQUID, N.O.S.) 4921494**POISON B NA2810**

Chlorinated phenol petroleum solution is a colorless to yellow liquid. It is insoluble in water and may or may not be combustible. It is toxic by inhalation and by skin absorption.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical
Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CHLORINE 4904120
NONFLAMMABLE GAS, POISONOUS UN1017
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)

Chlorine is a greenish yellow gas with a pungent suffocating odor. It is used to purify water, bleach woodpulp, and to make other chemicals. It is toxic by inhalation. It is soluble in water. It reacts explosively or forms explosive compounds, with many common chemicals. It is normally shipped as a liquid in cylinders or tank cars. Contact with liquid should be avoided as it can cause frostbite. The liquid does readily vaporize to gas. The vapors are much heavier than air and tend to settle in low areas.

It weighs 13.0 pounds per gallon.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use water spray to absorb vapors

If material not involved in fire

Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Do not apply water to point of leak in tank car or container

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus

Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If material leaking (not on fire) evacuate for a radius of 2500 feet

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Neutralize with caustic soda or soda ash

Environmental considerations—water spill

Add caustic soda

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors
Vapor knockdown water is corrosive or toxic and should be diked for containment

CHLORINE DIOXIDE HYDRATE, FROZEN 4918110
OXIDIZER, POISONOUS AND THERMALLY UNSTABLE NA9191

Chlorine dioxide hydrate, frozen is an orange colored solid, appearing as a block of ice, with a faint odor of chlorine. It is used to bleach wood pulp, fats and oils; in processing flour, and for water purification. It may only be shipped in the frozen state and then only by private or contract motor carrier. The melting point of the hydrate is around 30 deg. F. If it should thaw and further warm up, chlorine dioxide gas is given off. The gas is toxic by inhalation. The gas and liquid are violently decomposed by organic materials. The gas will decompose explosively at temperatures below the boiling point of water.

If material on fire or involved in fire

Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not on fire and not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing vapors
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If fire becomes uncontrollable—evacuate for a radius of 1500 feet

CHLORINE TRIFLUORIDE 4918210
OXIDIZER, POISONOUS, CORROSIVE UN1749

Chlorine trifluoride is a colorless gas or green liquid with a pungent odor. It becomes a gas at 53 deg. F. It reacts with water to form chlorine and hydrofluoric acid with release of heat. Contact with organic materials may result in spontaneous ignition. It may only be shipped in cylinders not equipped with safety relief devices. It is corrosive to metals and tissue. Prolonged exposure of the cylinders to fire can result in their violent rupturing and rocketing.

Continued on next page

If material involved in fire

- Do not use water on material itself
- Use dry chemical or carbon dioxide
- Cool all affected containers with flooding quantities of water
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors

If material not involved in fire

- Keep material out of water sources and sewers
- Do not use water on material itself
- Use water spray to knock-down vapors
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

**4-CHLORO-O-TOLUIDINE HYDROCHLORIDE 4921412
POISON B UN1579**

4-chloro-o-toluidine hydrochloride is a white crystalline solid. It is soluble in water. It is toxic by skin absorption and inhalation (dust).

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing vapors or dusts
- Keep upwind
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

**CHLOROACETIC ACID, SOLID 4931416
CORROSIVE MATERIAL, ACIDIC UN1751**

Chloroacetic acid, solid is a colorless to light-brown crystalline solid. It absorbs moisture from air and forms a syrup. It is soluble in water. It is corrosive to metals and tissue.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep material out of water sources and sewers
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**CHLOROACETOPHENONE, GAS, LIQUID OR SOLID 4925220
IRRITATING MATERIAL UN1697**

Chloroacetophenone is in the form of colorless to white crystals. The vapor of the material is very irritating to the eyes and mucous membranes.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical
- Cool all affected containers with flooding quantities of water
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

**CHLOROACETYL CHLORIDE 4931210
CORROSIVE MATERIAL, ACIDIC, POISONOUS UN1752**

Chloroacetyl chloride is a colorless to light yellow liquid with a pungent odor. It is decomposed by water to chloroacetic and hydrochloric acids. These and the material itself are corrosive to metals and tissue.

If material involved in fire

- Use dry chemical or carbon dioxide
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

CHLOROBENZOL (OR) CHLOROBENZENE 4909153
FLAMMABLE LIQUID UN1134
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100-45.4)

Chlorobenzol is a clear colorless liquid with an almond-like odor. It has a flash point of 66 deg. F. It is heavier than water and slightly soluble in water. Its vapors are heavier than air.

It weighs 9.2 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
- Apply "universal" gelling agent to immobilize spill
- Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Combustion products include corrosive or toxic vapors

P-CHLOROBENZOYL PEROXIDE 4919120
ORGANIC PEROXIDE UN2113

P-chlorobenzoyl peroxide is a white granular solid. It is easily ignited and burns very rapidly. It strongly supports the burning of combustible materials. It can form explosive mixtures with finely divided combustible materials. Under prolonged exposure to fire or heat containers of the material can explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

P-CHLOROBENZOYL PEROXIDE, (NOT MORE THAN 52% AS A PASTE) THAN 52% WITH INERT SOLID) 4919219
ORGANIC PEROXIDE UN2114

3,3,6,6,9,9-hexamethyl-1,2,4,5-tetraoxocyclononane. (not more than 52% solid. It is used to manufacture paints, plastics, and rubber. It is plastics, and rubber. It is insoluble in water. It is easily ignited and as the fire progresses, it can form explosive mixtures with finely divided mixtures with finely divided combustible materials. It supports the burning under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

P-CHLOROBENZOYL PEROXIDE, (NOT MORE THAN 75% WITH WATER) 4919218
ORGANIC PEROXIDE UN2113

P-chlorobenzoyl peroxide. (not more than 75% with water) is a white solid, it is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

Continued on next page

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

CHLOROFORM (CHLOROFORM, NEC, OTHER THAN TECHNICAL GRADE) **4940310**
ORM-A **UN1888**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
 Chloroform is a clear colorless heavy liquid with a characteristic odor. It is used as a solvent, to make other chemicals, as fumigant, and for other uses. It is heavier than water and slightly soluble in water. It is nonflammable under most conditions, but it will burn under extreme fire conditions. It can cause illness by inhalation, skin absorption and/or ingestion.
 It weighs 12.3 pounds per gallon.
If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
 Apply "universal" gelling agent to immobilize spill
Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
 Remove trapped material with suction hoses
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
Environmental considerations—air spill
 Combustion products include corrosive or toxic vapors
 Thermal decomposition to phosgene can occur

CHLOROFORM (CHLOROFORM, NEC, TECHNICAL GRADE (TRICHLOROMETHANE)) **4940311**
ORM-A **UN1888**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
 Chloroform is a clear colorless heavy liquid with a characteristic odor. It is used as a solvent, to make other chemicals, as fumigant, and for other uses. It is heavier than water and slightly soluble in water. It is nonflammable under most conditions, but it will burn under extreme fire conditions. It can cause illness by inhalation, skin absorption and/or ingestion.
 It weighs 12.3 pounds per gallon.
If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
 Apply "universal" gelling agent to immobilize spill
Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
 Remove trapped material with suction hoses
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
Environmental considerations—air spill
 Combustion products include corrosive or toxic vapors
 Thermal decomposition to phosgene can occur

CHLOROPENTANES (COMBUSTIBLE LIQUID, N.O.S.) **4913136**
COMBUSTIBLE LIQUID **NA1993**
 Chloropentanes are clear colorless to pale yellow liquids. They have a flash point between 100 and 199 deg. F. They are lighter than water and insoluble in water. Their vapors are heavier than air.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

CHLOROPENTANES (FLAMMABLE LIQUID, N.O.S.) 4909136
FLAMMABLE LIQUID UN1993

Chloropentanes are clear colorless to yellow liquids. Their flash point is in the range of 54 to 99 deg. F. They are lighter than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

3-CHLOROPEROXYBENZOIC ACID, (NOT MORE THAN 86% WITH 3-CHLOROBENZOIC ACID) 4919223

ORGANIC PEROXIDE UN2755

3-chloroperoxybenzoic acid, (not more than 86% with 3-chlorobenzoic acid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

CHLOROPHENYL TRICHLOROSILANE 4934220
CORROSIVE MATERIAL, ACIDIC UN1753

Chlorophenyl trichlorosilane is a colorless to pale yellow liquid with a pungent odor. The material will burn though it may take some effort to ignite. It is decomposed by moisture or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

CHLOROPICRIN AND METHYL CHLORIDE MIXTURE 4920105
POISON A, FLAMMABLE UN1582

Chloropicrin and methyl chloride mixture is a colorless gas with an intense, penetrating odor. It is shipped as a liquefied gas under its vapor pressure. Methyl chloride is a flammable gas and chloropicrin is non-combustible. The mixture can separate with the chloropicrin settling into low areas. Chloropicrin is very irritating to all body surfaces and is toxic by inhalation. It may only be shipped in cylinders and these may be overpacked in wooden boxes. Prolonged exposure to fire or heat may cause the cylinders to violently rupture and rocket.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If material leaking (not on fire), downwind evacuation must be considered

CHLOROPICRIN MIXTURE (CONTAINING NO COMPRESSED GAS OR POISON A LIQUID) **4921416**
POISON B **UN1583**
Chloropicrin mixture is a variable colored liquid usually colorless to yellow. Chloropicrin is non-combustible and the flammability of the mixture will depend on the other component of the mixture. Chloropicrin vapors are heavier than air and it is toxic by inhalation. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300
If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical
Use water spray to absorb vapors
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Evacuation
If material leaking (not on fire), downwind evacuation must be considered

CHLOROPICRIN, ABSORBED **4921415**
POISON B **NA1583**
Chloropicrin, absorbed is a liquid chloropicrin absorbed on a dry carrier. The strong odor of chloropicrin may or may not be present. The carrier usually is not soluble in water and is non-combustible. Chloropicrin is slightly soluble in water and is non-combustible. Vapors of chloropicrin are heavier than air and it is toxic by inhalation. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical
If material not involved in fire
Keep material out of water sources and sewers
Personnel protection
Avoid breathing vapors or dusts
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CHLOROPICRIN, LIQUID **4921414**
POISON B **UN1580**
Chloropicrin, liquid is a colorless to yellow liquid with a strong odor. It is slightly soluble in water and is non-combustible. Its vapors are heavier than air and it is toxic by inhalation. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical
If material not involved in fire
Keep material out of water sources and sewers
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Evacuation
If material leaking (not on fire), downwind evacuation must be considered

CHLOROPRENE, INHIBITED **4907223**
FLAMMABLE LIQUID **UN1991**
POLYMERIZABLE
Chloroprene is a clear colorless liquid. It is used to make neoprene rubber. It has a flash point of -4 deg. F. If subject to heat it may polymerize, with evolution of additional heat. If the polymerization takes place in a container, the container is subject to possible rupture. It is heavier than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

2-CHLOROPROPENE **4908128**
FLAMMABLE LIQUID **UN2456**
2-chloropropene is a clear colorless volatile liquid. It has a flash point of -4 deg. F, and a boiling point of 73 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

CHLOROSULFONIC ACID 4930204
CORROSIVE MATERIAL, ACIDIC UN1754
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Chlorosulfonic acid is a colorless to yellow colored fuming liquid with a pungent odor. It is decomposed by water to give hydrochloric and sulfuric acids with release of heat. It is corrosive to metals and tissue. It weighs 14.7 pounds per gallon.

If material involved in fire
Do not use water on material itself
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash or cement powder
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Dilute slowly with water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—air spill
Apply water spray or mist to knock down vapors
Vapor knockdown water is corrosive or toxic and should be diked for containment

CHLOROSUNFONIC ACID-SULFUR TRIOXIDE 4930205
MIXTURE
CORROSIVE MATERIAL, ACIDIC UN1754
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Chlorosulfonic acid-sulfur trioxide mixture is a colorless to yellow fuming liquid with a pungent odor. It is decomposed by water into hydrochloric and sulfuric acid with release of heat. It is corrosive to metals and skin.

It weighs 14.7 pounds per gallon.

If material involved in fire
Do not use water on material itself
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash or cement powder
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Dilute slowly with water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—air spill
Apply water spray or mist to knock down vapors
Vapor knockdown water is corrosive or toxic and should be diked for containment

CHLORPICRIN AND NONFLAMMABLE, 4920505
NONLIQUEFIED COMPRESSED GAS MIXTURE
POISON A NA1955

Chlorpicrin and nonflammable, nonliquefied compressed gas is a colorless gas with an intense penetrating odor. It is toxic by inhalation (vapor) and ingestion. It may only be shipped in cylinders. Its vapors are heavier than air. Prolonged exposure of the cylinder to fire or heat may result in the violent rupturing and rocketing of the cylinder.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Continued on next page

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If material leaking (not on fire), downwind evacuation must be considered

CHLORPYRIFOS (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4941123
ORM-A NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Chlorpyrifos is a white crystalline solid dissolved in a liquid carrier. It is used as a herbicide. It is a water emulsifiable liquid. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CHLORPYRIFOS (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4941124
ORM-A NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Chlorpyrifos is a white crystalline solid. It is used as a herbicide. It is a wettable powder. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CHLORPYRIFOS (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4941125
ORM-A NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Chlorpyrifos is a white crystalline solid or the solid dissolved in a liquid carrier. It is used as a herbicide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CHROME CHLORIDE SOLUTION (CHROMOUS CHLORIDE) 4963324
ORM-E NA9102
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Chrome chloride solution is the white crystalline solid dissolved in water. It is used to make other chemicals. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CHROME CHLORIDE SOLUTION (CORROSIVE LIQUID, N.O.S.) 4932338

CORROSIVE MATERIAL, ACIDIC UN1760

Chrome chloride solution is the blue or green colored crystals dissolved in water. The solution is corrosive to metals.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

CHROME SULPHATE SOLUTION (CHROMIC SULFATE) 4963319

ORM-E NA9100 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Chrome sulphate solution is the dark green to violet crystalline material dissolved in water. It is used in paints and inks, ceramics, and in textile dyeing. It is soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
- Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Adjust ph to neutral (ph-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CHROMIC ACETATE 4963312

ORM-E NA9101 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Chromic acetate is a greyish green to bluish green powder. It is used in tanning and in textile dyeing. It is soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire
- lighting water

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Adjust ph to neutral (ph-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CHROMIC ACID MIXTURE, DRY 4918511

OXIDIZER, CORROSIVE NA1463

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Chromic acid mixture, dry is the mixture of the dark purplish red solid and other solid chemicals. The chromic acid is soluble in water with release of heat. The other materials may or may not be soluble in water. The material itself is noncombustible but it will accelerate the burning of combustible materials. Its solution is corrosive to metals and tissue.

If material on fire or involved in fire

- Flood with water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing dusts
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Continued on next page

MCD 000017054

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CHROMIC ACID SOLUTION 4932026
CORROSIVE MATERIAL, ACIDIC UN1755
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Chromic acid solution is a dark red colored liquid. It is soluble in water. It is corrosive to metals and tissue. It can react with combustible materials and the heat of this reaction may be sufficient to result in the ignition of the combustible material.

It weighs 13.9 pounds per gallon.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors

Keep upwind

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Adjust pH to neutral (pH-7)

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

Vapor knockdown water is corrosive or toxic and should be diked for containment

CHROMIC ACID, SOLID 4918510
OXIDIZER, CORROSIVE NA1463
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Chromic acid is a dark purplish red solid. It is soluble in water to form a corrosive solution. The material itself is noncombustible but it will accelerate the burning of combustible materials. Sufficient heat may be generated from the reaction with combustible materials to ignite the mass. Prolonged exposure to fire or heat can cause containers of the material to explode.

If material on fire or involved in fire

Flood with water

Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing dusts

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Approach fire with caution

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CHROMIC ANHYDRIDE (See CHROMIC ACID, SOLID 4918510)

CHROMIC FLUORIDE SOLUTION 4932340
CORROSIVE MATERIAL, ACIDIC UN1757

Chromic fluoride solution is the green crystalline solid dissolved in water. It is corrosive to metals and tissue.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Avoid breathing fumes from burning material

If contact with the material anticipated, wear full protective clothing

CHROMIC FLUORIDE, SOLID 4932339
CORROSIVE MATERIAL UN1756

Chromic fluoride, solid is a green crystalline solid. It is soluble in water. It is corrosive to tissue.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Neutralize spilled material with crushed limestone, soda ash, or lime

MCD 000017055

Personnel protection

- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

CHROMIC SULFATE 4963314
ORM-E NA9100

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Chromic sulfate is a dark green to violet solid. It is used in ceramics, as a pigment for paint, and in textile dyeing. It is soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Adjust ph to neutral (ph-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CHROMIC TRIOXIDE (See CHROMIC ACID, SOLID 4918510)

CHROMIUM RESINATE (FLAMMABLE SOLID, N.O.S.) 4916765
FLAMMABLE SOLID UN1325

Chromium resinate is a green to violet amorphous powder. It may spontaneously heat in the presence of air or moisture. This heat may be sufficient to ignite surrounding combustible materials.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

CHROMIUM SULPHATE, BASIC, DRY (CHROMIC SULFATE) 4963317

ORM-E NA9100
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Chromium sulphate, basic, dry is a green solid. It is used in leather tanning. It is soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Adjust ph to neutral (ph-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CHROMOUS CHLORIDE 4963322
ORM-E NA9102

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Chromous chloride is a white crystalline solid. It is used to make other chemicals and as an oxygen absorbent. It is soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CHROMYL CHLORIDE (OR) CHROMIUM OXYCHLORIDE 4930203

CORROSIVE MATERIAL, ACIDIC UN1758

Chromyl chloride is a dark red colored fuming liquid with a pungent odor. It is decomposed by water to chromic acid, hydrochloric acid, and some chlorine with release of heat.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

Continued on next page

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

CIGARETTE LIGHTER 4905726
FLAMMABLE GAS UN1057
Cigarette lighter consists of a small device charged with a flammable gas, usually butane and equipped with an ignition device. The lighters continually leak very small amounts of gas and therefore may not be shipped in airtight containers.

If material on fire or involved in fire
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

Personnel protection
Avoid breathing vapors
Keep upwind
Approach fire with caution

CIGARETTE LIGHTER 4910425
FLAMMABLE LIQUID UN1226
Cigarette lighter is a small device containing a flammable liquid fuel in a reservoir with or without absorbent packing. The fuel has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. The vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CIGARETTE LOADS 4903510
CLASS C EXPLOSIVE
Cigarette load consist of wooden pegs to which are affixed a small amount of explosive composition.

If material on fire or involved in fire
Flood with water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

CLEANING COMPOUND, IRON OR STEEL, LIQUID 4936516
(COMPOUND, CLEANING, LIQUID)
CORROSIVE MATERIAL NA1760
Cleaning compounds, iron or steel, nec, liquid are various colored liquids. They are water soluble and are corrosive to metals and/or tissue.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Apply water from as far a distance as possible

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

CLEANING COMPOUNDS, IRON OR STEEL, DRY 4936517
(CORROSIVE SOLID, N.O.S.)
CORROSIVE MATERIAL UN1759
Cleaning compounds, iron or steel, dry are various colored solids. They are water soluble and are corrosive to metals and/or tissue.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Apply water from as far a distance as possible

If material not involved in fire
Keep material out of water sources and sewers

Personnel protection
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

COAL BRIQUETTE BINDER (COMBUSTIBLE LIQUID, N.O.S.) 4915510
COMBUSTIBLE LIQUID NA1993
Coal briquette binder is a dark colored liquid with a petroleum like odor. It has a flash point between 100 and 199 deg. F. It is generally heavier than water and insoluble in water. Its vapors are heavier than air.

MCD 000017057

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL BRIQUETTE BINDER (FLAMMABLE LIQUID, N.O.S.) 4910510
FLAMMABLE LIQUID UN1993
 Coal briquette binder is a dark colored liquid with a petroleum like odor. It has a flash point of less than 100 deg. F. It is generally heavier than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL SPRAYING OIL, PETROLEUM (PETROLEUM OIL, N.O.S.) 4910361
FLAMMABLE LIQUID NA1270
 Coal spraying oil, petroleum is a dark colored liquid with a characteristic odor. It has a flash point of less than 100 deg. F. It is generally lighter than water and is insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL SPRAYING OIL, PETROLEUM (PETROLEUM OIL, N.O.S.) 4915361
COMBUSTIBLE LIQUID NA1993
 Coal spraying oil, petroleum is a dark colored liquid with a characteristic odor. It has a flash point between 100 and 199 deg. F. It is generally lighter than water and is insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR DISTILLATE 4910133
FLAMMABLE LIQUID UN1136
 Coal tar distillate is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR DISTILLATE **4915133**
COMBUSTIBLE LIQUID **UN1137**

Coal tar distillate is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR DYE, LIQUID **4936510**
CORROSIVE MATERIAL **NA2801**

Coal tar dye, liquid are various colored liquids or solutions of solids. They are combustible though it may require some effort to ignite them. They are corrosive to metals and or tissue.

If material on fire or involved in fire

- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

COAL TAR FIBRE SATURANT LIQUID (FLAMMABLE **4910511**
LIQUID, N.O.S.)
FLAMMABLE LIQUID **UN1993**

Coal tar fiber saturant liquid is a dark colored liquid. It has a flash point of less than 100 deg. F. It is generally heavier than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR FIBRE SATURANT, LIQUID **4915511**
(COMBUSTIBLE LIQUID, N.O.S.) **NA1993**

Coal tar fibre saturant, liquid is a dark colored liquid. It has a flash point between 100 and 199 deg. F. It is generally heavier than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR LIGHT OIL **4910134**
FLAMMABLE LIQUID **NA1136**

Coal tar light oil is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR LIGHT OIL 4915134
COMBUSTIBLE LIQUID NA1137

Coal tar light oil is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR LIGHT OIL (CRUDE LIGHT OIL OF COAL 4910135
TAR)

FLAMMABLE LIQUID NA1136

Coal tar light oil (crude light oil of coal tar) is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR LIGHT OIL (CRUDE LIGHT OIL OF COAL 4915135
TAR)

COMBUSTIBLE LIQUID NA1137

Coal tar light oil (crude light oil of coal tar) is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR NAPHTHA
FLAMMABLE LIQUID

4910136
NA2553

Coal tar naphtha is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR NAPHTHA
COMBUSTIBLE LIQUID

4915136
NA2553

Coal tar naphtha is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

MCD 000017080

**COAL TAR NAPHTHA (COAL TAR NAPHTHA, CRUDE) 910137
FLAMMABLE LIQUID NA2553**

Coal tar naphtha, crude is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**COAL TAR NAPHTHA (COAL TAR NAPHTHA, CRUDE) 4915137
COMBUSTIBLE LIQUID NA2553**

Coal tar naphtha, crude is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**COAL TAR NAPHTHA AND LIGHT OIL OF COAL TAR, 4915512
CRUDE (COMBUSTIBLE LIQUID, N.O.S.)
COMBUSTIBLE LIQUID NA1993**

Coal tar naphtha and light oil of coal tar, crude is a clear colorless to dark colored liquid with a petroleum like odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**COAL TAR NAPHTHA AND LIGHT OIL OF COAL TAR, 4910512
CRUDE (FLAMMABLE LIQUID, N.O.S.)
FLAMMABLE LIQUID UN1993**

Coal tar naphtha and light oil of coal tar, crude is a clear colorless to dark colored liquid with a petroleum like odor. It has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**COAL TAR OIL 4910138
FLAMMABLE LIQUID NA1136**

Coal tar oil is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR OIL 4915138
COMBUSTIBLE LIQUID NA1137

Coal tar oil is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR OIL (COAL TAR OIL, CRUDE, NEC) 4910139
FLAMMABLE LIQUID NA1136

Coal tar oil, crude, nec is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR OIL (COAL TAR OIL, CRUDE, NEC) 4915139
COMBUSTIBLE LIQUID NA1137

Coal tar, oil, crude, nec is a clear colorless to dark brownish colored liquid with an aromatic odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TAR OIL, CRUDE, NEC (CORROSIVE LIQUID, N.O.S.) 4931412

CORROSIVE MATERIAL, ACIDIC UN1760

Coal tar oil, crude, nec, is a dark colored liquid with a creosote odor. It is combustible though it may take some effort to ignite. It is lighter than water and is partially soluble in water. It is corrosive to tissue.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

COAL TAR OIL, CRUDE, NEC (CORROSIVE SOLID, N.O.S.) 4931413

CORROSIVE MATERIAL, ACIDIC UN1759

Coal tar oil, crude, nec, is a dark colored solid with a creosote odor. It is combustible. It is heavier than water and is partially soluble in water. It is corrosive to tissue.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

COAL TREATING COMPOUNDS, OTHER THAN PETROLEUM, NEC, LIQUID (COMBUSTIBLE LIQUID) **4915330**

COMBUSTIBLE LIQUID **NA1993**

Coal treating compounds, other than petroleum, nec, liquid are variable colored liquids. They have a flash point between 100 and 199 deg. F. They are generally insoluble in water and heavier than water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL TREATING COMPOUNDS, OTHER THAN PETROLEUM, NEC, LIQUID (FLAMMABLE LIQUID, N.O.S.) **4910330**

FLAMMABLE LIQUID **UN1993**

Coal treating compounds, other than petroleum, nec, liquid are variable colored liquids. They have a flash point of less than 100 deg. F. They are generally insoluble in water and heavier than water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COAL, GROUND BITUMINOUS, SEA COAL, COAL FACINGS, ETC. **4917307**

FLAMMABLE SOLID **NA1361**

Coal, ground bituminous is powdered coal. It must be stored for six days after grinding, else it must be shipped in tight metal containers or cars. If not stored it is liable to spontaneous heating and ignition.

If material on fire or involved in fire

- Use dry chemical or carbon dioxide
- Use water only if flooding quantities are available

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material dry

COATING SOLUTION FLAMMABLE LIQUID **4910142 UN1139**

Coating solution is a solution of various gums and resins in various solvents. The liquids are generally quite thick and may range from clear colorless to black "tar". The flash point depends on the solvent used but it will be less than 100 deg. F.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COBALT RESINATE, PRECIPITATED FLAMMABLE SOLID **4916705 UN1318**

Cobalt resinate, precipitated is a reddish brown powder. It is used a drier in paints. If it comes in contact with air, spontaneous heating may result. This heat may be sufficient to ignite the material itself or surrounding combustible material. It is insoluble in water.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COBALTOUS BROMIDE ORM-E **4963710 NA9103**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Cobaltous bromide is a red violet crystalline solid. It is used as a catalyst in the production of other chemicals. It is soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust pH to neutral (pH-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

COBALTOUS FORMATE 4963327
ORM-E NA9104
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Cobaltous formate is a red crystalline solid. It is used to make catalysts for use in chemical manufacture. It is soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust pH to neutral (pH-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

COBALTOUS SULFAMATE 4963329
ORM-E NA9105
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Cobaltous sulfamate is a. It is used for electroplating metals. It is soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Add calcium hypochlorite
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust pH to neutral (pH-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

COCULUS, SOLID
POISON B

4921418
UN1584

Cocculus, solid is a dried fruit. It is toxic by ingestion.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

COCOA BEAN SHELLS, (FLAMMABLE SOLID, N.O.S.) 4917387
FLAMMABLE SOLID UN1325

Cocoa bean shells are in the form of brown "leaves" or "flakes". If the shells are not cooled after processing, or dried too much, or appreciable oil is left behind in processing, they are liable to spontaneous heating and ignition.

If material on fire or involved in fire

Flood with water

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

COLLIDIENE (COMBUSTIBLE LIQUID, N.O.S.) 4913173
COMBUSTIBLE LIQUID NA1993

Collidienne is a clear colorless liquid. It is used to make other chemicals. It has a flash point of 135 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

MCD 000017064

**COLLODION
FLAMMABLE LIQUID** 4910144
NA2059

Colloidion is a solution of nitrocellulose in a mixture of ether and ethyl alcohol. Its flash point may vary but it is well below 100 deg. F. The film deposited by the evaporation of the solvent is easily ignited and once ignited burns with great rapidity. If the fire is confined, and large quantities of material are involved, an explosion may result.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

**COMBINATION FUZE
CLASS C EXPLOSIVE** 4903205

Combination fuze is a device used for detonating the bursting charge of a projectile. It has both a percussion mechanism and a time delay mechanism.

If material on fire or involved in fire
Flood with water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

**COMBINATION PRIMER
CLASS C EXPLOSIVE** 4903210

Combination primer is a device employing both a percussion element and an electrical element either of which can be used to make the device function.

If material on fire or involved in fire
Flood with water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

**COMBUSTIBLE LIQUID, N.O.S.
COMBUSTIBLE LIQUID** 4915185
NA1993

Combustible liquid, n.o.s. is the proper shipping name for those materials having a closed cup flash point between 100 and 199 deg. F. and not specifically mentioned in the hazardous materials regulations.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

**COMMON FIREWORKS
CLASS C EXPLOSIVE** 4903520

Common fireworks are fireworks devices suitable for use by the public and designed primarily to produce visible effects by combustion. Some small devices designed to produce audible effects are also included in this description.

If material on fire or involved in fire
Flood with water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

**COMPOUND, CLEANING, LIQUID
CORROSIVE MATERIAL** 4936515
NA1760

Compound, cleaning, liquid is a variable colored liquid. The compound is generally water soluble. It is corrosive to metals and/or tissue.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Apply water from as far a distance as possible

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

MCD 000017085

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

COMPOUND, CLEANING, LIQUID 4910147
FLAMMABLE LIQUID NA1993

Compound, cleaning, liquid is a variable colored liquid with a petroleumlike odor. Its has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

COMPOUND, CLEANING, LIQUID 4915147
COMBUSTIBLE LIQUID NA1993

Compound, cleaning, liquid is a variable colored liquid with a petroleum like odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

COMPOUND, CLEANING, LIQUID (CONTAINING 4930209
HYDROCHLORIC (MURIATIC) ACID)
CORROSIVE MATERIAL, ACIDIC NA1789

Compound, cleaning, liquid (containing hydrochloric (muriatic) acid) are various colored liquids with a pungent odor. It is soluble in water with release of some heat. It is corrosive to metals and/or tissue.

If material on fire or involved in fire

Do not use water on material itself
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

COMPOUND, CLEANING, LIQUID (CONTAINING 4930210
HYDROFLUORIC ACID)
CORROSIVE MATERIAL, ACIDIC NA1790

Compound, cleaning, liquid (containing hydrofluoric acid) are various colored liquids with a pungent odor. They are soluble in water with the release of some heat. They are corrosive to metals and/or tissue. Skin contact with fumes or small quantities of material for short periods of time can cause severe painful burns.

If material on fire or involved in fire

Do not use water on material itself
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

COMPOUND, CLEANING, LIQUID (CONTAINING 4936520
PHOSPHORIC OR ACETIC ACIDS)
CORROSIVE MATERIAL, ACIDIC NA1760

Compound, cleaning, liquid (containing phosphoric or acetic acids) are various colored liquids, generally odorless if containing phosphoric acid and having a vinegar like odor, if containing acetic acid. They are soluble in water with evolution of heat. They are corrosive to metals and tissue.

Continued on next page

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Apply water from as far a distance as possible

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

COMPOUND, CLEANING, LIQUID (CONTAINING SODIUM OR POTASSIUM HYDROXIDE) 4936521
CORROSIVE MATERIAL, BASIC NA1760
 Compound, cleaning, liquid (containing sodium or potassium hydroxide) are various colored liquids. They are soluble in water with evolution of heat. They are corrosive to metals and tissue.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Apply water from as far a distance as possible

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

COMPOUND, ENAMEL FLAMMABLE LIQUID 4910150 NA1263
 Compound, enamel is a variable colored "paint" like liquid. It has a flash point of less than 100 deg. F. It is usually lighter than water and is insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water

COMPOUND, LACQUER, PAINT OR VARNISH REMOVING LIQUID 4936535
CORROSIVE MATERIAL, BASIC, COMBUSTIBLE NA1760
 Compounds, lacquer, paint or varnish removing liquid are various colored materials. They are corrosive to metals and/or tissue.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Solid streams of water may be ineffective
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

COMPOUND, LACQUER, PAINT, OR VARNISH, REMOVING, REDUCING OR THINNING COMBUSTIBLE LIQUID 4915153 NA1142
 Compound, lacquer, paint, or varnish, removing, reducing or thinning are generally clear colorless liquids. Their flash point is between 100 and 199 deg. F. Most of these compounds are lighter than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water

COMPOUND, LACQUER, PAINT, OR VARNISH, REMOVING, REDUCING OR THINNING, FLAMMABLE LIQUID 4910153 NA1142
 Compound, lacquer, paint, or varnish, removing, reducing or thinning are generally clear colorless liquids. Their flash point is less than 100 deg. F. Most of these compounds are lighter than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**COMPOUND, POLISHING, LIQUID 4910155
FLAMMABLE LIQUID NA1142**

Compound, polishing, liquid is usually a variable colored liquid containing an undissolved solid. It has a flash point of less than 100 deg. F. It is lighter than water and generally insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**COMPOUND, TREE (OR) WEED KILLING, LIQUID 4936532
CORROSIVE MATERIAL NA1760**

Compound, tree (or) weed killing, liquid is a variable colored liquid. It may either be a solution of solid material in a liquid or a simple liquid or mixture of liquids. It may be combustible though requiring some effort to ignite. It is usually soluble in water. It is corrosive to metals and or tissue.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

**COMPOUND, TREE OR WEED KILLING, LIQUID 4910157
FLAMMABLE LIQUID NA1993**

Compound, tree or weed killing, liquid is a variable colored liquid. It has a flash point of less than 100 deg. F. most of these materials are lighter than water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**COMPOUND, TREE OR WEED KILLING, LIQUID 4915157
COMBUSTIBLE LIQUID NA1993**

Compound, tree or weed killing, liquid is a variable colored liquid. It has a flash point between 100 and 199 deg. F. Most of these materials are lighter than water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

COMPOUND, TREE OR WEED KILLINGS, SOLID OXIDIZER 4918405 NA1479

Compound, tree or weed killing, solid are various solid materials. They may or may not burn, but if mixed with combustible materials they will accelerate their burning. Prolonged exposure of these materials and or their containers to fire or heat may result in an explosion.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 1500 feet

COMPOUND, VULCANIZING, LIQUID FLAMMABLE LIQUID 4910162 NA1142

Compound, vulcanizing, liquid is a variable colored liquid. It has a flash point of less than 100 deg. F. The hazard of this material is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COMPOUND, VULCANIZING, LIQUID CORROSIVE MATERIAL 4936534 NA1760

Compound, vulcanizing, liquid are various colored materials. They are corrosive to metals and/or tissue.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

COMPOUNDS CAULKING OR GLAZING (COMBUSTIBLE LIQUID, N.O.S.) 4915450 NA1993

Compounds caulking or glazing are materials containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of these materials is combustibility.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COMPOUNDS CAULKING OR GLAZING (FLAMMABLE LIQUID, N.O.S.) 4910450 UN1993

Compounds caulking or glazing are materials containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of these materials is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COMPOUNDS GAS PURIFYING (FLAMMABLE SOLID, N.O.S.) 4917396 UN1325

Compounds gas purifying are various colored solid materials having the property of being readily ignited by external sparks or flame and when so ignited burns vigorously and persistently.

If material on fire or involved in fire
 Flood with water
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Build dikes to contain flow as necessary
Personnel protection
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Avoid breathing dusts, and fumes from burning material

COMPOUNDS METAL PURIFYING, NEC (POISONOUS SOLID, N.O.S.) 4923390

POISON B NA2811
 Compounds metal purifying are various colored solid materials. They may or may not be water soluble. They are toxic by ingestion, inhalation (dusts), or by skin absorption.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

COMPOUNDS, CASE CARBURIZING OR HARDENING, NEC (POISONOUS SOLID, N.O.S.) 4923391

POISON B NA2811
 Compounds, case carburizing or hardening, nec are various colored solids frequently containing some cyanide. The material is toxic by ingestion. Cyanides are decomposed by acids giving off hydrogen cyanide a flammable poison gas. Cyanides are also toxic by skin absorption through open wounds and by inhalation of the hydrogen cyanide from decomposition.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

COMPOUNDS, CASE HARDENING OR CARBURIZING, CHARCOAL, COAL, OR COKE BASE (POISONOUS SOLID, N.O.S.) 4923392

POISON B NA2811
 Compounds, case hardening or carburizing, charcoal, coal or coke base are black solids frequently containing some cyanide. The material is toxic by ingestion. Cyanides are decomposed by acids giving off hydrogen cyanide a flammable poison gas. Cyanides are also toxic by skin absorption through open wounds, and by inhalation of hydrogen cyanide from the decomposition of the material.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

COMPOUNDS, HECTOGRAPH (COMBUSTIBLE LIQUID, N.O.S.) 4915470

COMBUSTIBLE LIQUID NA1993
 Compounds, hectograph are materials containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of these materials is combustibility.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

COMPOUNDS, HECTOGRAPH (FLAMMABLE LIQUID, N.O.S.) 4910470

FLAMMABLE LIQUID UN1993
 Compounds, hectograph are materials containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of these materials is flammability.

Continued on next page

MCD 000017070

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

COMPOUNDS, IRON OR STEEL RUST PREVENTING, OTHER THAN PETROLEUM, NEC (RUST PREVENTIVE COATING) 4915184

COMBUSTIBLE LIQUID NA1142
 Compounds, iron or steel rust preventing other than petroleum, nec are thick variable colored liquids having an odor of paint. They have a flash point between 100 and 199 deg. F. They are insoluble in water and are heavier than water. Their vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

COMPOUNDS, LEATHER FINISHING, NEC 4915472
(COMBUSTIBLE LIQUID, N.O.S.)

COMBUSTIBLE LIQUID NA1993
 Compounds, leather finishing, nec is a material containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of this material is combustibility.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

COMPOUNDS, LEATHER FINISHING, NEC 4910472
(FLAMMABLE LIQUID, N.O.S.)

FLAMMABLE LIQUID UN1993
 Compounds, leather finishing, nec is a material containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of this material is flammability.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

COMPOUNDS, PETROLEUM TREATING, CRUDE, NEC 4936563
(ACID, LIQUID, N.O.S.)

CORROSIVE MATERIAL UN1760
 Compounds, petroleum treating, crude, nec are various colored liquids. They are corrosive to metals and tissue. They may burn though it may require some effort to ignite.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Solid streams of water may be ineffective
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

MCD 000017071

**COMPOUNDS, PETROLEUM TREATING, CRUDE, NEC 4910349
(FLAMMABLE LIQUID, N.O.S.)**

FLAMMABLE LIQUID UN1993

Compounds, petroleum treating, crude, nec are various colored liquids. They have a flash point of less than 100 deg. F. They are generally lighter than water and soluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**COMPOUNDS, RUST PREVENTING (OR) COMPOUND 4936530
RUST REMOVING**

CORROSIVE MATERIAL NA1760

Compounds rust preventing or compound rust removing are various colored liquids. They are soluble in water with evolution of heat. They are corrosive to metals and tissue.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

**COMPOUNDS, STONE STENCIL, IN SHEET FORM 4936571
(CORROSIVE SOLID, N.O.S.)**

CORROSIVE MATERIAL UN1759

Compounds, stone stencil in sheet form are various materials impregnated in paper or cloth. These compounds have the property of being corrosive to tissue. They may or may not be water soluble. The sheets may be combustible.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**COMPOUNDS, TREE OR WEED KILLING, LIQUID 4921419
POISON B NA2810**

Compound, tree or weed killing, liquid are various materials or solutions that have the property of being toxic by ingestion, inhalation or skin absorption.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**COMPOUNDS, WALL OR WALL PAPER CLEANING 4910414
(COMPOUND, CLEANING, LIQUID)**

FLAMMABLE LIQUID NA1993

Compounds, wall or wall paper cleaning contain a flammable liquid. The flash point is less than 100 deg. F. The hazard is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COMPOUNDS, WALL OR WALL PAPER CLEANING (COMPOUND, CLEANING, LIQUID) **4915414**
COMBUSTIBLE LIQUID **NA1993**
Compounds, wall or wall paper cleaning contain a combustible liquid. The flash point is between 100 and 199 deg. F. The hazard is combustibility.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

COMPOUNDS, WATER SYSTEM RUST OR SCALE PREVENTING, DRY (CORROSIVE SOLID, N.O.S.) **4936546**
CORROSIVE MATERIAL **UN1759**
Compounds, water system rust or scale preventing, dry are various colored solid materials. They are water soluble. They are corrosive to tissue.

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

COMPRESSED GAS, N.O.S. FLAMMABLE GAS **4905710**
UN1954
Compressed gases, n.o.s. are materials which are shipped in containers under pressure. They may be mixtures of flammable and non-flammable gases. With the mixture having flammable properties. The gas is easily ignited. The mixture may separate with the flammable gas settling in low areas, or the nonflammable gas settling in low areas. It may only be shipped in cylinders. A flame may flash back to the source of leak very easily. Under fire conditions the cylinders may violently rupture and rocket. If the cylinder is an aerosol it will violently rupture under fire conditions.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Approach fire with caution

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

COMPRESSED GAS, N.O.S. NONFLAMMABLE GAS **4904515**
UN1956
Compressed gases, n.o.s. are materials which are shipped in containers under pressure. They may be mixtures consisting of a nonflammable gas(es) and a flammable gas(es) with the mixture having nonflammable properties. The mixture may separate with the flammable gas settling in low areas, or the nonflammable gas settling in low areas. It may asphyxiate by the displacement of air. It may only be shipped in cylinders. If the cylinder is an aerosol container, it can rupture and rocket under fire conditions.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Do not use water on material itself
Use water spray to absorb vapors

If material not involved in fire
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If material leaking (not on fire), downwind evacuation must be considered

COPPER ACETATE (VERDIGRIS) (CUPRIC ACETATE) ORM-E **4962310**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4) **NA9106**
Copper acetate is a blueish greenish crystalline solid. It is used as an insecticide, in the preparation of other chemicals, as a fungicide, and mildew preventive. It is soluble in water. It is non-combustible.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Adjust pH to neutral (pH-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

COPPER ACETOARSENITE, SOLID 4923220
POISON B UN1585
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)

Copper acetoarsenite, solid is an emerald-green powder. It is insoluble in water. It is toxic by inhalation (dust) and by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

COPPER ARSENITE, SOLID 4923221
POISON B UN1586

Copper arsenite, solid is a light green powder. It is insoluble in water. It is toxic by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind

- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

COPPER BASED PESTICIDE, LIQUID, N.O.S. 4923331
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)
POISON B UN2775

Copper based pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may require some effort to ignite. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COPPER BASED PESTICIDE, LIQUID, N.O.S. 4923332
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, LIQUID)
POISON B UN2775

Copper based pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may require some effort to ignite. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

COPPER BASED PESTICIDE, LIQUID, N.O.S. 4910506
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, LIQUID)

FLAMMABLE LIQUID UN2776

Copper based pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wear self-contained breathing apparatus when fighting fires involving this material

COPPER BASED PESTICIDE, LIQUID, N.O.S. 4910505
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)

FLAMMABLE LIQUID UN2776

Copper based pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wear self-contained breathing apparatus when fighting fires involving this material

COPPER BASED PESTICIDE, SOLID, N.O.S. 492333
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID)

POISON B UN2775

Copper based pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

COPPER BASED PESTICIDE, SOLID, N.O.S. 4923333
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)

POISON B UN2775

Copper based pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

COPPER CHLORIDE 4944173
ORM-B UN2802
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10.4.54)

Copper chloride is a yellowish brown powder or a green crystalline it is used to manufacture other chemicals, in dyeing, in printing, in fungicides, as a wood preservative, and for many other uses. It is soluble in water. It is non-combustible. It is corrosive to aluminum.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with
copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire
fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone,
or sodium bicarbonate
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of
pollutants and precipitates

**COPPER CYANIDE
POISON B**

**4923418
UN1587**

Copper cyanide is a green powder. It is insoluble in water. It is de-
composed by acids to give off hydrogen cyanide, a flammable poison
gas. It is toxic by skin absorption through open wounds, by ingestion,
and by inhalation of hydrogen cyanide from decomposition of the ma-
terial. Toxic oxides of nitrogen are produced in fires involving this
material.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use foam, carbon dioxide or dry chemical
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding
quantities as spray and fog
Use water spray to absorb vapors

If material not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Use water spray to knock-down vapors
Do not use water on material itself

Personnel protection

Avoid breathing vapors or dusts
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involv-
ing this material
If contact with the material anticipated, wear full protective clothing

**COPPER NAPHTHANATE PETROLEUM SOLUTION,
NOT MORE THAN 8% COPPER NAPHTHANATE
(FLAMMABLE LIQUID, N.O.S.)**

4910516

FLAMMABLE LIQUID

UN1993

Copper naphthanate petroleum solution is a green colored liquid with
a petroleum like odor. It has a flash point of less than 100 deg. F. It is
lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire

Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water

**COPPER NAPHTHANATE SOLUTION, NOT MORE
THAN 8% COPPER NAPHTHANATE
(COMBUSTIBLE LIQUID, N.O.S.)**

4915516

COMBUSTIBLE LIQUID

NA1993

Copper naphthanate solution is a green colored liquid with a petroleum
like odor. It has a flash point between 100 and 199 deg. F. It is lighter
than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water

**COPPER NITRATE SOLUTION (CUPRIC NITRATE)
OXIDIZER**

4918745

NA1479

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)

Copper nitrate solution is a blue crystalline solid dissolved in water.
It is used in medicine, as an insecticide, in chemical analysis, in making
light sensitive papers, and for many other uses. It is noncombustible,
but it will accelerate the burning of combustible materials. If large quan-
tities of the material are involved or the material is finely divided, an
explosion may result. Prolonged exposure to fire or heat may result in
an explosion. Toxic oxides of nitrogen are produced in fires involving
this material.

If material on fire or involved in fire

Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Continued on next page

MCD 000017076

Personnel protection
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 2500 feet

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
 Adjust pH to neutral (pH-7)
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

COPPER RESINATE, (FLAMMABLE SOLID, N.O.S.) 4916762
FLAMMABLE SOLID UN1325
 Copper resinate is a green amorphous powder. It may spontaneously heat in the presence of air and moisture. This heat may be sufficient to ignite nearby combustible material. It is insoluble in water.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

COPPER SULFATE AND LIME COMBINED, DRY 4961317
(CUPRIC SULFATE)
ORM-E NA9109
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)
 Pentachlorophenol is a white powder or crystalline solid or, fused in copper sulfate is blue and lime is white. It is used as an agricultural soil is slightly soluble in water. It is non-combustible. Is non-combustible.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Adjust pH to neutral (pH-7)
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

COPPER SULPHATE AND SULPHUR (CUPRIC 496131'
SULFATE)
ORM-E NA9109
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)
 Copper sulphate and sulphur is a solid; copper sulfate is blue and sulfur is yellow. It is used as an agricultural fungicide. The copper sulfate is soluble in water sulphur is not soluble in water. It is non-combustible.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
 Adjust pH to neutral (pH-7)
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CORDEAU DETONANT FUSE 490334:
CLASS C EXPLOSIVE
 Cordeau detonant fuse is a fuse containing a core of pentaerythrit tetranitrate or cyclotrimethylene-trinitramine not exceeding 400 grains per linear foot, overspun with tapes, yarns, plastics, or waterproofing compounds.

If material on fire or involved in fire
 Dangerously explosive
 Flood with water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Approach fire with caution
 Avoid breathing dusts, and fumes from burning material
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 1500 feet

CORES OR CORE ASSEMBLIES OR FUEL BLANKET 4926445
ASSEMBLIES, NUCLEAR REACTOR, NOT
IRRADIATED, WITH NON-IRRADIATED FUEL,
(RADIOACTIVE MATERIAL, N.O.S.)
RADIOACTIVE MATERIAL NA9181
 Cores or core assemblies or fuel blanket assemblies, nuclear reactor, not irradiated, with non-irradiated fuel, are sealed metal tubes or tube assemblies containing the fuel.
 Radioactive materials emit certain rays that may be hazardous. These rays can be detected only by instruments. Exposure of humans to intense radiation may be harmful, whereas film may be damaged by radiation from relatively low concentrations.

MCD 000017077

If material on fire or involved in fire

Contact the local, state, or department of energy radiological response team
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Contact the local, state, or department of energy radiological response team
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection

Keep upwind
Avoid breathing fumes from burning material
Wear full protective clothing
Wear self-contained breathing apparatus
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

Keep unnecessary people out of incident area until area declared safe by radiological response team

CORROSIVE LIQUID, N.O.S.

4936540

CORROSIVE MATERIAL

UN1780

Corrosive liquid, n.o.s. is a liquid that can cause visible destruction or irreversible alterations in human skin tissue at the site of contact, or in the case of leakage from its packaging a liquid that has a severe corrosion rate on steel. It may be combustible though it may require some effort to ignite. It may or may not be water soluble.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

CORROSIVE LIQUID, POISONOUS, N.O.S.

4936015

CORROSIVE MATERIAL, POISONOUS

UN2922

Corrosive liquid, poisonous, n.o.s. is a liquid that can cause visible destruction or irreversible alterations in human skin tissue at the site of contact, or in the case of leakage from its packaging a liquid that has a severe corrosion rate on steel. It is also toxic by ingestion, inhalation, or by skin absorption. It may be combustible though it may require some effort to ignite. It may or may not be water soluble.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

CORROSIVE SOLID, N.O.S.

4936545

CORROSIVE MATERIAL

UN1759

Corrosive solid, n.o.s. is a variable colored material that can cause visible destruction or irreversible alteration in human skin tissue at the site of contact. It may be combustible though requiring some effort to ignite. It may or may not be water soluble.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

COSMETICS, N.O.S.

4917377

FLAMMABLE SOLID

NA1325

Cosmetics, n.o.s. is the proper shipping name of any solid material, other than one classed as an explosive, or specifically listed by name in the list of hazardous materials which is liable under conditions incident to transportation to cause fires through friction, absorption of moisture, spontaneous chemical changes as a result of retained heat from the manufacturing or processing of the solid, or which can be readily ignited by external sparks or flame and when so ignited burns vigorously and persistently. Try to ascertain the exact name of the material.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of fire

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Build dikes to contain flow as necessary
Personnel protection
Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

COSMETICS, N.O.S. 4918411
OXIDIZER NA1479

Cosmetics, n.o.s. are various materials which have the property of accelerating the burning of combustible material. These materials may not burn by themselves. Prolonged exposure of these materials and or their containers to fire or heat may result in an explosion. These materials may only be shipped in containers of 55 gallon capacity or less.

If material on fire or involved in fire
Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
Approach fire with caution

Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

COSMETICS, N.O.S. 4910192
FLAMMABLE LIQUID NA1993

Cosmetics, n.o.s. is the proper shipping name for those materials having a closed cup flash point of less than 100 deg. F. and not specifically mentioned in the hazardous materials regulations. The hazard is flammability.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

COSMETICS, N.O.S. 4915192
COMBUSTIBLE LIQUID NA1993

Cosmetics, n.o.s. is the proper shipping name for those materials having a closed cup flash point between 100 and 199 deg. F. and not specifically mentioned in the hazardous materials regulations. The hazard is combustibility.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

COSMETICS, N.O.S., LIQUID 4936551
CORROSIVE MATERIAL NA1760

Cosmetics, n.o.s., liquid is the proper shipping name for various colored liquids having the property of being corrosive to steel or tissue. It may either be a simple liquid material or a solid material dissolved in a solvent. It may be combustible though requiring some effort to ignite. They may or may not be water soluble.

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

COSMETICS, N.O.S., SOLID 4936552
CORROSIVE MATERIAL NA1759

Cosmetics, n.o.s., solid is the proper shipping name for various colored solids having the property of being corrosive to tissue. They may or may not be water soluble.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use dry chemical, carbon dioxide, or dry sand
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding
 quantities as spray and fog
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

COTTON WASTE, OILY (WITH MORE THAN 5% ANIMAL OR VEGETABLE OIL) 4917415
FLAMMABLE SOLID UN1364
 Cotton waste, oily is material contaminated, coated or impregnated
 with animal or vegetable oil. It is liable to spontaneous heating and
 ignition.
If material on fire or involved in fire
 Flood with water
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

COUMAPHOS 4921505
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)
 Coumaphos is white to light brown crystalline solid. It is combustible
 and is insoluble in water. It is toxic by ingestion. In case of damage to,
 or leaking from containers of this material contact the pesticide safety
 team network. Telephone: 800-424-9300
If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water
Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag
 barriers to trap material at bottom
 If dissolved, apply activated carbon at ten times the spilled amount
 in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of
 pollutants and precipitates

COUMAPHOS MIXTURE, LIQUID (AGRICULTURAL INSECTIDES, NEC, LIQUID) 4921506
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)
 Coumaphos mixture, liquid is the white to light brown crystalline solid
 dissolved in a liquid carrier. it is combustible and is insoluble in water.
 it is toxic by ingestion. In case of damage to, or leaking from containers
 of this material contact the pesticide safety team network. Telephone:
 800-424-9300

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water
Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag
 barriers to trap material at bottom
 If dissolved, apply activated carbon at ten times the spilled amount
 in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of
 pollutants and precipitates

CREOSOTE, COAL TAR 4915363
COMBUSTIBLE LIQUID NA1993
 Creosote, coal tar is a yellowish to dark green colored liquid with a
 characteristic odor. It is used as a wood preservative and as a disin-
 fectant. It has a flash point in the range of 120 to 180 deg. F. It is heavier
 than water and insoluble in water. Its vapors are heavier than air.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

CRESOL 4931417
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN2076
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Cresylic acid is a colorless to yellow liquid with a tar-like odor. It is combustible and has a flash point of 178 deg. F. It is insoluble in water. It is corrosive to tissue.

It weighs 8.7 pounds per gallon.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

CROTONALDEHYDE 4909137
FLAMMABLE LIQUID UN1143
POLYMERIZABLE
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)

Crotonaldehyde is a clear, colorless to straw colored liquid with a penetrating pungent odor. It has a flash point of 55 deg. F. If subject to heat it may polymerize. If polymerization takes place in a container the container may violently rupture. It is lighter than water and slightly soluble in water, its vapors are heavier than air.

It weighs 7.1 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Apply fluorocarbon-water foam to diminish vapor and fire hazard
- Add sodium bisulfite (nahso3)

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
- Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

CROTONIC ACID 4931418
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN2823

Crotonic acid is a white crystalline solid. It is combustible and has a flash point of 190 deg. F. It is soluble in water. It is corrosive to metals and tissue.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep material out of water sources and sewers
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

CROTONYLENE 4909138
FLAMMABLE LIQUID UN1144

Crotonylene is a clear colorless liquid with a petroleum like odor. It has a flash point of less than -4 deg. F. and a boiling point of 81 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CRUDE NITROGEN FERTILIZER SOLUTION (MORE THAN 25.3 PSIG) 4904240

NONFLAMMABLE GAS, CORROSIVE NA1043

Crude nitrogen fertilizer solution is the aqueous solution of nitrogen fertilizer charged with ammonia gas having an absolute pressure exceeding 40 psi at 70 deg. F. in the container. the solution is corrosive. Although ammonia is lighter than air, the vapors from a leak initially hug the ground.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use water spray to absorb vapors

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and gas tight goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

CRUDE OIL, PETROLEUM FLAMMABLE LIQUID 4910165 UN1267

Crude oil, petroleum is dark viscous liquid. It has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CRUDE OIL, PETROLEUM COMBUSTIBLE LIQUID 4915165 UN1267

Crude oil, petroleum is a dark viscous liquid. It has a flash point between 100 and 199 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CUMENE (COMBUSTIBLE LIQUID, N.O.S.) 4913125 NA1993 COMBUSTIBLE LIQUID

Cumene is a clear colorless liquid with an aromatic odor. It has a flash point of 111 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CUMENE HYDROPEROXIDE 4919525 ORGANIC PEROXIDE UN2116

Cumene hydroperoxide is a colorless to pale yellow colored liquid. It must be shipped as a solution not exceeding 96% in a non-volatile solvent. The solution may take some effort to ignite but once ignited it burns with increasing vigor as the fire progresses. It strongly supports the burning of combustible material. Containers of the solution if exposed to fire or flame may explode. Solutions of 90% peroxide in a non-volatile solvent may be shipped in tank cars.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

CUPRIC NITRATE 4918744
OXIDIZER NA1479
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Cupric nitrate is a blue crystalline solid. It is used in medicine, as an insecticide, in chemical analysis, in making light sensitive papers, and for many other uses. It is soluble in water. It is noncombustible, but it will accelerate the burning of combustible materials. If large quantities of the material are involved or the material is finely divided, an explosion may result. Prolonged exposure to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material.

If material on fire or involved in fire
Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material.

Evacuation
If fire becomes uncontrollable—evacuate for a radius of 2500 feet

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust pH to neutral (pH-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CUPRIC OXALATE 4962610
ORM-E NA2449
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Cupric oxalate is a bluish white powder. It is used as a catalyst in the manufacture of other chemicals. It is insoluble in water. It is non-combustible.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CUPRIC SULFATE 4961316
ORM-E NA9109
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)
Cupric sulfate is a blue crystalline solid. It is used in agriculture, as a fertilizer, pesticide, or feed additive, to make other copper compounds, as a wood preservative, and for many other uses. It is soluble in water. It is non-combustible.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust pH to neutral (pH-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CUPRIC SULFATE, AMMONIATED 4962313
ORM-E NA9110
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Cupric sulfate, ammoniated is a dark blue crystalline solid with a faint odor of ammonia. It is used as a pesticide, to print fabrics, and to make other copper compounds. It decomposes on exposure to air giving off ammonia. It is soluble in water. It is non-combustible.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Adjust pH to neutral (pH-7)
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Adjust pH to neutral (pH-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CUPRIC TARTRATE**4962614****ORM-E****NA9111****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)**

Cupric tartrate is a green to blue powder. It is used for electroplating metals. It is insoluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**CUPRIETHYLENE-DIAMINE SOLUTION
CORROSIVE MATERIAL, BASIC****4935630****UN1761**

Cupriethylene-diamine solution is a purple colored liquid with an ammonia like odor. It is soluble in water. It is corrosive to metals and tissue. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**CUTCH, CATECHU, OR JAPONICA EXTRACTS,
LIQUID (COMBUSTIBLE LIQUID, N.O.S.)****4915432****COMBUSTIBLE LIQUID****NA1993**

Cutch, catechu, or japonica extracts, liquid are materials containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of these materials is combustibility.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**CUTCH, CATECHU, OR JAPONICA EXTRACTS,
LIQUID (FLAMMABLE LIQUID, N.O.S.)****4910432****FLAMMABLE LIQUID****UN1993**

Cutch, catechu, or japonica extracts, liquid are materials containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of these materials is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

MCD 000017084

CYANIDE OR CYANIDE MIXTURE, DRY 4923224
POISON B UN1588

Cyanide or cyanide mixtures, dry are generally white crystalline or powdered material. They are slowly decomposed by water and very rapidly decomposed by acids to give off hydrogen cyanide, a flammable poison gas. It is toxic by skin absorption through open wounds, by ingestion, and inhalation of the hydrogen cyanide from the decomposition of the material. Toxic oxides of nitrogen are produced in fires involving this material.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use foam, carbon dioxide or dry chemical

Do not use water on material itself

If large quantities of combustibles are involved, use water in flooding quantities as spray and fog

Use water spray to absorb vapors

If material not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Use water spray to knock-down vapors

Do not use water on material itself

Personnel protection

Avoid breathing vapors or dusts

Keep upwind

Wear self-contained breathing apparatus

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

If contact with the material anticipated, wear full protective clothing

CYANIDE SOLUTION, N.O.S. 4923230
POISON B UN1935

Cyanide solution, n.o.s. is the white crystalline material dissolved in water with a stabilizer having the faint odor of bitter almonds. It is slowly decomposed by water and very rapidly by acids to give off hydrogen cyanide, a flammable poison gas. It is toxic by skin absorption, by ingestion, and inhalation of the hydrogen cyanide from the decomposition of the material.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Use foam, carbon dioxide or dry chemical

Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors

Keep upwind

Wear self-contained breathing apparatus

Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

CYANOGEN BROMIDE 4923229
POISON B UN1889

Cyanogen bromide is a colorless to white crystalline solid with a penetrating odor. It is used in gold extraction, to make other chemicals, and as a fumigant. It is slightly soluble in water. It is gradually decomposed by water and very rapidly by acids to give off hydrogen bromide, a flammable poison gas. Contamination with many materials can cause rapid decomposition of the material. It is toxic by inhalation of its vapors or by the hydrogen cyanide from decomposition or by ingestion. Toxic oxides of nitrogen are produced in fire involving this material.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use foam, carbon dioxide or dry chemical

Cool all affected containers with flooding quantities of water

Do not use water on material itself

If large quantities of combustibles are involved, use water in flooding quantities as spray and fog

Use water spray to absorb vapors

If material not involved in fire

Keep material out of water sources and sewers

Use water spray to knock-down vapors

Do not use water on material itself

Personnel protection

Avoid breathing vapors or dusts

Keep upwind

Wear self-contained breathing apparatus

Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

CYANOGEN CHLORIDE (CONTAINING LESS THAN 4920506
0.9% WATER)

POISON A UN1589
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)

Cyanogen chloride is a colorless liquid boiling at 60 deg. F. with a strong odor. In very low concentrations it is irritating to the eyes and mucous membranes while in higher concentrations it is toxic by inhalation. Its vapor is heavier than air. It may only be shipped in cylinder. Prolonged exposure of the cylinder to fire or heat may cause violently rupturing and rocketing.

It weighs 10.0 pounds per gallon.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Attempt to stop leak if without hazard

Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors

Keep upwind

Wear self-contained breathing apparatus

Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

MCD 000017085

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

Add caustic soda
Add calcium hypochlorite
Adjust pH to neutral (pH-7)

Environmental considerations—air spill

Apply water spray or mist to knock down vapors
Vapor knockdown water is corrosive or toxic and should be diked for containment

**CYANOGEN GAS
POISON A, FLAMMABLE****4920115
UN1026**

Cyanogen gas is a colorless gas with an odor of almonds. It is used to make other chemicals, as a fumigant, and as a rocket propellant. It is shipped as a liquefied gas under its vapor pressure. Its vapor is heavier than air and a flame can travel back to the source of leak very easily. Material is soluble in water and slowly decomposed by water to oxalic acid, a non regulated material, and ammonia. Material may be only shipped in cylinders and these may have to be overpacked in wooden boxes. Prolonged exposure to fire or heat may cause violent rupturing and rocketing of the cylinders.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

**CYCLOHEXANE
FLAMMABLE LIQUID****4908132
UN1145****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)**

Cyclohexane is a clear colorless liquid with a petroleum-like odor. It is used to make nylon, as a solvent, paint remover, and to make other chemicals. It has a flash point of -4 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

It weighs 6.5 pounds per gallon.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire

Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Apply "universal" gelling agent to immobilize spill

Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill

Use natural barriers or oil spill control booms to limit spill motion
Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

**CYCLOHEXANONE (COMBUSTIBLE LIQUID, N.O.S.)
COMBUSTIBLE LIQUID****4913179
NA1993**

Cyclohexanone is a colorless to pale yellow liquid with a pleasant odor. It is used to make nylon, as a chemical reaction medium, and as a solvent. It is lighter than water and is slightly soluble in water. It has a flash point of 111 deg. F. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CYCLOHEXANONE PEROXIDE (IN SOLUTION WITH NOT MORE THAN 9% BY WEIGHT ACTIVE OXYGEN)

4919527

ORGANIC PEROXIDE

UN2118

Cyclohexanone peroxide, (in solution with not more than 9% by weight active oxygen) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

CYCLOHEXANONE PEROXIDE AND BIS(1-HYDROXYCYCLOHEXYL) PEROXIDE MIXTURE ORGANIC PEROXIDE

4919537

UN2119

Cyclohexanone peroxide and bis(1-hydroxycyclohexyl) peroxide mixture is a colorless solution of a white crystalline solid in a non-volatile solvent. The solution may take some effort to ignite but once ignited it burns with increasing vigor as the fire progresses. The dried material is easier to ignite. It strongly supports the burning of combustible material. The dried material can form explosive mixtures with finely divided combustible materials. Under prolonged exposure to heat or fire containers of the material can explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment

- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

CYCLOHEXANONE PEROXIDE AND DI-(1-HYDROXYCYCLOHEXYL) PEROXIDE MIXTURE ORGANIC PEROXIDE

4919125

UN2896

Cyclohexanone peroxide and di-(1-hydroxycyclohexyl) peroxide mixture is a white solid or colorless to white liquid or paste. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat, containers of the materials may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

CYCLOHEXANONE PEROXIDE, (AS A PASTE WITH NOT MORE THAN 9% BY WEIGHT ACTIVE OXYGEN)

4919528

ORGANIC PEROXIDE

UN2896

Cyclohexanone peroxide, (as a paste with not more than 9% by weight active oxygen) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

CYCLOHEXANONE PEROXIDE, (NOT OVER 50% PEROXIDE) 4919530
ORGANIC PEROXIDE UN2896

Cyclohexanone peroxide is a colorless solution of a white crystalline solid. The solution may take some effort to ignite but once ignited it burns with increasing vigor as the fire progresses. It strongly supports the burning of combustible material. The dried material is easily ignited. The dried material can form explosive mixtures with combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

CYCLOHEXANONE PEROXIDE, (50 TO 85% PEROXIDE) 4919535
ORGANIC PEROXIDE UN2119

Cyclohexanone peroxide is a colorless solution of a white crystalline solid. The solution may take some effort to ignite but once ignited it burns with increasing vigor as the fire progresses. It strongly supports the burning of combustible material. The dried material is easily ignited. The dried material can form explosive mixtures with combustible materials. If exposed to fire or heat for prolonged periods of time, container of the solution may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

CYCLOHEXENYL TRICHLOROSILANE 4934217
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN1762

Cyclohexenyl trichlorosilane is a colorless liquid with a pungent odor. it is used to make various silicon containing compounds. it is combustible and has a flash point of 200 deg. F. It is readily decomposed by moisture or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire
 Use dry chemical, carbon dioxide, or dry sand
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
 Use water spray to absorb vapors
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

CYCLOHEXYL TRICHLOROSILANE 4934218
CORROSIVE MATERIAL, ACIDIC UN1763

Cyclohexyl trichlorosilane is a colorless to pale yellow liquid with a pungent odor. It is combustible and has a flash point of 185 deg. F. It is readily decomposed by moisture or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.

Continued on next page

MCD 000017088

If material on fire or involved in fire
 Use dry chemical, carbon dioxide, or dry sand
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
 Use water spray to absorb vapors
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

CYCLOHEXYLAMINE 4909139
FLAMMABLE LIQUID UN2357

Cyclohexylamine is a clear colorless to yellow liquid with an ammonia like odor. It has a flash point of 90 deg. F. It is irritating to the eyes and respiratory system. Skin contact may result in burns. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

CYCLOPENTANE 4908135
FLAMMABLE LIQUID UN1146

Cyclopentane is a clear colorless liquid with a petroleum-like odor. It has a flash point of -35 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

CYCLOPENTANE, METHYL 4908137
FLAMMABLE LIQUID UN2298

Cyclopentane, methyl is a clear colorless liquid with a petroleum-like odor. It has a flash point of -17 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

CYCLOPROPANE 4905713
FLAMMABLE GAS UN1027

Cyclopropane is a colorless gas with a petroleum like odor. It is shipped as a liquid under its own vapor pressure. It is easily ignited and may only be shipped in cylinders. It is heavier than air and a flame can flash back to the source of leak very easily. Contact with the liquid may cause frostbite. It can asphyxiate by the displacement of air. Under fire conditions the cylinders may violently rupture and rocket.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Use water spray to knock-down vapors
Keep material dry

Personnel protection

Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

DDT (OR) DICHLORODIPHENYLTRICHLOROETHANE 4941129
ORM-A NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

DDT is a colorless to white crystalline solid. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DE-INKING COMPOUNDS USED IN RECYCLING 4935278
PAPER (CORROSIVE LIQUID, N.O.S.)
CORROSIVE MATERIAL UN1760

De-inking compounds are various colored liquids. They may or may not be soluble in water. They may burn though it may take some effort to ignite. They are corrosive to metals and tissue.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

DECABORANE 4916610
FLAMMABLE SOLID, POISONOUS UN1868

Decaborane is a colorless to white crystalline material with a persistent disagreeable odor. It is readily ignited and once ignited burns with a green flame. It may spontaneously ignite on exposure to air. It is toxic by skin absorption. It is slightly soluble in cold water and is slowly hydrolyzed by hot water to give off hydrogen, a flammable gas. It forms shock sensitive compounds when dissolved in oxygenated or halogenated solvents.

If material on fire or involved in fire

Use water in flooding quantities as fog
Use dry chemical or carbon dioxide

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry

Personnel protection

Avoid breathing dusts
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

DECAHYDRONAPHTHALENE 4913167
COMBUSTIBLE LIQUID UN1147

Decahydronaphthalene is a clear colorless liquid with an aromatic odor. It has a flash point of 134 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

DECANOYL PEROXIDE, (TECHNICALLY PURE) 4919128
ORGANIC PEROXIDE UN2120

Decanoyl peroxide, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DECYL ALCOHOL, OTHER THAN PERFUMERY 4913121
GRADE (ALCOHOL, N.O.S.)
COMBUSTIBLE LIQUID UN1987

Decyl alcohol is a clear colorless liquid with a sweet fat-like odor. It has a flash point of 180 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

DEFOAMING COMPOUND, NEC, LIQUID 4915208
(COMBUSTIBLE LIQUID, N.O.S.)
COMBUSTIBLE LIQUID NA1993

Defoaming compound, nec, liquid is a variable colored liquid. It has a flash point between 100 and 199 deg. F. It is generally lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

DEFOAMING COMPOUND, NEC, LIQUID (FLAMMABLE 4910208
LIQUID, N.O.S.)
FLAMMABLE LIQUID UN1993

Defoaming compound, nec, liquid is a variable colored liquid. It has a flash point of less than 100 deg. F. It is generally lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

DEGUMMING COMPOUNDS, FABRIC OR FIBER 4915466
(COMBUSTIBLE LIQUID, N.O.S.)
COMBUSTIBLE LIQUID NA1993

Degumming compounds, fabric or fiber are materials containing a solvent having a flash point between 100 and 199 deg. F. The hazard of these materials is combustibility.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

DEGUMMING COMPOUNDS, FABRIC OR FIBER (FLAMMABLE LIQUID, N.O.S.) 4910466

FLAMMABLE LIQUID UN1993

Degumming compounds, fabric or fiber are materials containing a solvent having a flash point of below 100 deg. F. The hazard of these materials is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

DELAY ELECTRIC IGNITER CLASS C EXPLOSIVE 4903435

Delay electric igniter consists of small metal, fiberboard or paste board tubes containing a wire bridge in contact with a small quantity of an ignition compound in contact to a short piece of igniter cord.

If material on fire or involved in fire

- Flood with water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

Personnel protection

- Approach fire with caution
- Avoid breathing dusts, and fumes from burning material
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 1500 feet

DENATURED ALCOHOL FLAMMABLE LIQUID 4909141 NA1986

Denatured alcohol is a clear, colorless liquid with a characteristic odor. It is used as a fuel, solvent, antifreeze, and to make other chemicals. It has a flash point of 58-60 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

DENATURED ALCOHOL SOLVENT, (ALCOHOL, N.O.S.) 4909142

FLAMMABLE LIQUID UN1987

Denatured alcohol is a clear, colorless liquid with a characteristic odor. It has a flash point of 58-60 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

DENATURED ALCOHOL, SOLIDIFIED (ALCOHOL, N.O.S.) 4910403

FLAMMABLE LIQUID UN1987

Denatured alcohol, solidified is a sterno-like gel. The alcohol can separate out. The hazard is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

DENATURING ALCOHOL, NEC (ALCOHOL, N.O.S.) 4909143
FLAMMABLE LIQUID UN1987

Denaturing alcohol is a clear colorless liquid. It has a flash point of 100 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

DENATURING ALCOHOL, NEC (ALCOHOL, N.O.S.) 4913133
COMBUSTIBLE LIQUID UN1987

Denaturing alcohol, nec is a clear colorless liquid. It has a flash point between 100 and 199 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

DETERGENT INTERMEDIATES, OTHER THAN CYCLIC 4915371
OR PETROLEUM (COMBUSTIBLE LIQUID, N.O.S.)
COMBUSTIBLE LIQUID NA1993

Detergent intermediates, other than cyclic or petroleum are clear colorless liquid. They have a flash point between 100 and 199 deg. F. They are generally lighter than water and soluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

DETERGENT INTERMEDIATES, OTHER THAN CYCLIC 4910371
OR PETROLEUM (FLAMMABLE LIQUID, N.O.S.)
FLAMMABLE LIQUID UN1993

Detergent intermediate, other than cyclic or petroleum are clear colorless liquid. They have a flash point of less than 100 deg. F. They are generally lighter than water and soluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

DETONATING FUZE 4901205
CLASS A EXPLOSIVE

Detonating fuze is a device consisting of a detonator and may contain several ounces of high explosives encased in a heavy steel envelope. Under fire conditions they will explode.

If material on fire or involved in fire

- Dangerously explosive
- Do not fight fires in a cargo of explosives
- Evacuate area and let burn

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 5000 feet

DETONATING FUZE, CLASS C EXPLOSIVE 4903215
CLASS C EXPLOSIVE

Detonating fuze, class c explosive is a device containing a limited amount of explosive and is used to detonate the bursting charge of projectiles, bombs, mines, torpedoes, or grenades, or to transmit a detonation between two or more explosive devices.

MCD 000017093

If material on fire or involved in fire
Flood with water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

DETONATING FUZE, RADIOACTIVE 4901210
CLASS A EXPLOSIVE

Detonating fuze, radioactive is a device consisting of a detonator and may contain several ounces of high explosives and a small amount of a radioactive component encased in a steel envelope. Under fire conditions they will explode.

If material on fire or involved in fire

Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 5000 feet

DETONATING PRIMER (CAPS, BLASTING OR 4901260
ELECTRIC BLASTING, EXPLOSIVE)
CLASS A EXPLOSIVE

Detonating primer is a device consisting of a metal or plastic envelope containing a detonator and an additional charge of high explosives. Under fire conditions these devices will explode.

If material on fire or involved in fire

Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 5000 feet

DETONATING PRIMER (CAPS, BLASTING OR 4901365
ELECTRIC BLASTING, EXPLOSIVE)
CLASS C EXPLOSIVE

Detonating primer is a device consisting of a metal or plastic envelope containing a detonator and an additional charge of high explosives. Under fire conditions these devices will explode.

If material on fire or involved in fire

Dangerously explosive
Flood with water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

DETONATORS (CAPS, BLASTING OR ELECTRIC 4901330
BLASTING, EXPLOSIVE)
CLASS C EXPLOSIVE

Detonators are small tubes, usually made of an alloy of either copper or aluminum closed at one end and loaded with one or more charges of initiating or priming explosives. Under fire conditions they will explode.

If material on fire or involved in fire

Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 5000 feet

DETONATORS (CAPS, BLASTING OR ELECTRIC 4903360
BLASTING, EXPLOSIVE)
CLASS C EXPLOSIVE

Detonators are small tubes, usually made of an alloy of either copper or aluminum closed at one end and loaded with one or more charges of initiating or priming explosives. Under fire conditions they will explode.

If material on fire or involved in fire

Dangerously explosive
Flood with water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Personnel protection

Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If fire becomes uncontrollable—evacuate for a radius of 1500 feet

DI(2-ETHYLHEXYL) PHOSPHORIC ACID 4931422
CORROSIVE MATERIAL, ACIDIC NA1902

Di(2-ethylhexyl) phosphoric acid is a colorless liquid. It is insoluble in water. It is corrosive to metals and tissue.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use water spray to absorb vapors

Continued on next page

If material not on fire and not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

1,1-DI-(TERT-BUTYLPEROXY)-3,3,5-TRIMETHYL CYCLOHEXANE, (TECHNICALLY PURE) **4919296**
ORGANIC PEROXIDE **UN2145**

1,1-di-(tert-butylperoxy)-3,3,5-trimethyl cyclohexane, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

1,1-DI-(TERT-BUTYLPEROXY)-3,3,5-TRIMETHYL CYCLOHEXANE, (NOT MORE THAN 57% IN SOLUTION) **4919297**
ORGANIC PEROXIDE **UN2146**

1,1-di-(tert-butylperoxy)-3,3,5-trimethyl cyclohexane, (not more than 57% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

1,1-DI-(TERT-BUTYLPEROXY)-3,3,5-TRIMETHYL CYCLOHEXANE, (NOT MORE THAN 58% WITH INERT SOLID) **4919298**
ORGANIC PEROXIDE **UN2147**

1,1-di-(tert-butylperoxy)-3,3,5-trimethyl cyclohexane, (not more than 58% with inert solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

MCD 000017095

**2,2-DI-(TERT-BUTYLPEROXY)BUTANE, (NOT MORE THAN 55% IN SOLUTION) 4919210
ORGANIC PEROXIDE UN2111**

2,2-di-(tert-butylperoxy)butane, (not more than 55% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**1,1-DI-(TERT-BUTYLPEROXY)CYCLOHEXANE, (NOT MORE THAN 40% WITH INERT INORGANIC SOLID, WITH NOT LESS THAN 13% PHLEGMATIZER) 4919229
ORGANIC PEROXIDE UN2885**

1,1-di-(tert-butylperoxy)cyclohexane, (not more than 40% with inert inorganic solid, with not less than 13% phlegmatizer) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode. The phlegmatizer is a material added to make the peroxide less reactive.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**1,1-DI-(TERT-BUTYLPEROXY)CYCLOHEXANE, (NOT MORE THAN 50% WITH PHLEGMATIZER) 4919230
ORGANIC PEROXIDE UN2897**

1,1-di-(tert-butylperoxy)cyclohexane, (not more than 50% with phlegmatizer) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode. The phlegmatizer is a material added to make the peroxide less reactive.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**1,1-DI-(TERT-BUTYLPEROXY)CYCLOHEXANE, (NOT MORE THAN 77% IN SOLUTION) 4919227
ORGANIC PEROXIDE UN2180**

1,1-di-(tert-butylperoxy)cyclohexane, (not more than 77% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

Continued on next page

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

1,2-DI-(TERT-BUTYLPEROXY)CYCLOHEXANE, (NOT MORE THAN 77% IN SOLUTION) 4919228
ORGANIC PEROXIDE UN2181
 1,2-di-(tert-butylperoxy)cyclohexane, (not more than 77% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

1,1-DI-(TERT-BUTYLPEROXY)CYCLOHEXANE, (TECHNICALLY PURE) 4919226
ORGANIC PEROXIDE UN2179
 1,1-di-(tert-butylperoxy)cyclohexane, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DI-(TERT-BUTYLPEROXY)PHTHALATE, (NOT MORE THAN 55% AS A PASTE) 4919288
ORGANIC PEROXIDE UN2108
 Di-(tert-butylperoxy)phthalate, (not more than 55% as a paste) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

MCD 000017097

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DI-(TERT-BUTYLPEROXY)PHTHALATE, (NOT MORE THAN 55% IN SOLUTION) 4919287

ORGANIC PEROXIDE UN2107

Di-(tert-butylperoxy)phthalate, (not more than 55% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DI-(TERT-BUTYLPEROXY)PHTHALATE, (TECHNICALLY PURE) 4919286

ORGANIC PEROXIDE UN2106

Di-(tert-butylperoxy)phthalate, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

2,2-DI-(TERT-BUTYLPEROXY)PROPANE, (NOT MORE THAN 40% WITH INERT INORGANIC SOLID WITH NOT LESS THAN 13% PHEGMATIZER) 4919291

ORGANIC PEROXIDE UN2884

2,2-di-(tert-butylperoxy)propane, (not more than 40% with inert inorganic solid with not less than 13% phlegmatizer) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode. The phlegmatizer is a material added to make the peroxide less reactive.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

2,2-DI-(TERT-BUTYLPEROXY)PROPANE, (NOT MORE THAN 50% WITH PHLEGMATIZER) 4919290

ORGANIC PEROXIDE UN2883

2,2-di-(tert-butylperoxy)propane, (not more than 50% with phlegmatizer) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode. The phlegmatizer is a material added to make the peroxide less reactive.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DI-(1-HYDROXYCYCLOHEXYL) PEROXIDE, (TECHNICALLY PURE) 4919279

ORGANIC PEROXIDE UN2148

Di-(1-hydroxycyclohexyl) peroxide, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DI-(2-ETHYLHEXYL) PEROXYDICARBONATE, (NOT MORE THAN 67% IN SOLUTION) 4919281

ORGANIC PEROXIDE UN2123

Di-(2-ethylhexyl) peroxydicarbonate, (not more than 67% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DI-(2-ETHYLHEXYL) PEROXYDICARBONATE, (TECHNICALLY PURE) 4919280

ORGANIC PEROXIDE UN2122

Di-(2-ethylhexyl) peroxydicarbonate, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DI-(2-METHYLBENZOYL) PEROXIDE, (NOT MORE THAN 85% WITH WATER) 4919282
ORGANIC PEROXIDE UN2593

Di-(2-methylbenzoyl) peroxide, (not more than 85% with water) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

1,3-DI-(2-TERT-BUTYLPEROXYISOPROPYL) BENZENE AND 1,4-DI-(2-TERT-BUTYLPEROXYISOPROPYL) BENZENE MIXTURE, (TECHNICALLY PURE OR MORE THAN 40% WITH INERT SOLID) 4919207
ORGANIC PEROXIDE UN2112

1,3-di-(2-tert-butylperoxyisopropyl) benzene and 1,4-di-(2-tert-butylperoxyisopropyl) benzene mixture, (technically pure or more than 40% with inert solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

1,3-DI-(2-TERT-BUTYLPEROXYISOPROPYL) BENZENE, (TECHNICALLY PURE OR MORE THAN 40% WITH INERT SOLID) 4919206
ORGANIC PEROXIDE UN2112

1,3-di-(2-tert-butylperoxyisopropyl) benzene, (technically pure or more than 40% with inert solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Continued on next page

MCD 000017100

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

1,4-DI-(2-TERT-BUTYLPEROXYISOPROPYL) BENZENE, (TECHNICALLY PURE OR MORE THAN 40% WITH INERT SOLID) 4919208

ORGANIC PEROXIDE**UN2112**

1,4-di-(2-tert-butylperoxyisopropyl) benzene, (technically pure or more than 40% with inert solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DI-(3,5,5-TRIMETHYL-1,2-DIOXOLANYL-3) PEROXIDE, (NOT MORE THAN 50% AS A PASTE, WITH PHLEGMATIZER) 4919283

ORGANIC PEROXIDE**UN2597**

Di-(3,5,5-trimethyl-1,2-dioxolanyl-3) peroxide, (not more than 50% as a paste, with phlegmatizer) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode. The phlegmatizer is a material added to make the peroxide less reactive.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DI-(4-TERT-BUTYLCYCLOHEXYL)PEROXYDICARBONATE, (NOT MORE THAN 42%, STABLE DISPERSION, IN WATER) 4919284

ORGANIC PEROXIDE**UN2894**

Di-(4-tert-butylcyclohexyl)peroxydicarbonate, (not more than 42%, stable dispersion, in water) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

MCD 000017101

DI-(4-TERT-BUTYL(CYCLOHEXYL)PEROXYDICARBONATE, (TECHNICALLY PURE) **4919285**
ORGANIC PEROXIDE **UN2154**
 Di-(4-tert-butylcyclohexyl)peroxydicarbonate, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

2,2-DI-(4,4-DI-TERT-BUTYLPEROXYCYCLOHEXYL) PROPANE, (NOT MORE THAN 42% WITH INERT SOLID) **4919292**
ORGANIC PEROXIDE **UN2168**
 2,2-di-(4,4-di-tert-butylperoxycyclohexyl) propane, (not more than 42% with inert solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DI-N-PROPYL PEROXYDICARBONATE, (TECHNICALLY PURE) **4919294**
ORGANIC PEROXIDE **UN2176**
 Di-n-propyl peroxydicarbonate, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is slightly soluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DI-N-PROPYLAMINE (FLAMMABLE LIQUID, N.O.S.) **4909157**
FLAMMABLE LIQUID **UN1993**
 Di-n-propylamine is a clear colorless liquid with an ammonia-like odor. It has a flash point of 30 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Continued on next page

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**DI-SEC-BUTYL PEROXYDICARBONATE, (NOT MORE THAN 52% IN SOLUTION) 4919214
ORGANIC PEROXIDE UN2151**

Di-sec-butyl peroxydicarbonate, (not more than 52% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**DI-SEC-BUTYL PEROXYDICARBONATE, (TECHNICALLY PURE) 4919215
ORGANIC PEROXIDE UN2150**

Di-sec-butyl peroxydicarbonate, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water

- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**DI-tert-BUTYL PEROXIDE, (TECHNICALLY PURE) 4919213
ORGANIC PEROXIDE UN2102**

Di-tert-butyl peroxide, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**DIACETONE ALCOHOL 4909149
FLAMMABLE LIQUID UN1148**

Diacetone alcohol is a clear colorless liquid with a pleasant odor. It has a flash point of less than 100 deg. F. It is lighter than water and is soluble in water. Its vapors are heavier than air.

MCD 000017103

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

DIACETONE ALCOHOL PEROXIDE, (NOT MORE THAN 57% IN SOLUTION WITH NOT MORE THAN 9% HYDROGEN PEROXIDE, NOT LESS THAN 26% DIACETONE ALCOHOL AND NOT LESS THAN 9% WATER; TOTAL ACTIVE OXYGEN CONTENT NOT MORE THAN 9%) 4919234

ORGANIC PEROXIDE UN2163

Diacetone alcohol peroxide, (not more than 57% in solution with not more than 9% hydrogen peroxide, not less than 26% diacetone alcohol and not less than 9% water: total active oxygen content not more than 9%) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**DIACETYL
FLAMMABLE LIQUID**

4909144

UN2346

Diacetyl is a clear colorless liquid with a strong chlorine like odor. It has a flash point of 80 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

DIAZINON (AGRICULTURAL INSECTICIDES, NEC. LIQUID) 4941141

**ORM-A NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)**

Diazinon is a colorless to white liquid. It is used as a pesticide. It is a water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

Use natural barriers or oil spill control booms to limit spill motion
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DIAZINON (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4941142
ORM-A NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Diazinon is a colorless to white liquid absorbed on a dry carrier. It is used as a pesticide. It is a wettable powder. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection

Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

DIAZINON (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4941140
ORM-A NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Diazinon is a colorless to white liquid or the liquid absorbed on a dry carrier. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection

Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

DIBENZYL PEROXYDICARBONATE, (NOT MORE THAN 87% WITH WATER) 4919235
ORGANIC PEROXIDE UN2149

Dibenzyl peroxydicarbonate, (not more than 87% with water) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DIBORANE 4905420
FLAMMABLE GAS, POISONOUS UN1911

Diborane is a colorless gas with an offensive odor. It is used in electronics. It is toxic by inhalation. Diborane is decomposed by water giving off hydrogen, another flammable gas and boric acid non-regulated material. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Approach fire with caution

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

MCD 000017105

DIBORANE MIXTURES
FLAMMABLE GAS, POISONOUS

4905425
UN1911

Diborane mixtures is a colorless gas with an offensive odor. It is used in electronics. Diborane is decomposed by water giving off hydrogen, another flammable gas, and boric acid, a non-regulated material. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

1,2-DIBROMOETHANE (See ETHYLENE DIBROMIDE
4940335)

DICAMBA (AGRICULTURAL INSECTICIDES, NEC, LIQUID) **4963334**

ORM-E **NA2769**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dicamba is a white solid dissolved in a liquid carrier. It is used as a herbicide. It is a water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DICAMBA (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) **4963337**

ORM-E **NA2769**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dicamba is a white solid or the solid dissolve in a liquid carrier. It is used as a herbicide. It is a wettable powder. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DICAMBA (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) **4963332**

ORM-E **NA2769**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dicamba is a white solid or the solid dissolved in a liquid carrier. It is used as a herbicide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DICETYL PEROXYDICARBONATE, (NOT MORE THAN 42%, STABLE DISPERSION, IN WATER) 4919237

ORGANIC PEROXIDE UN2895

Dicetyl peroxydicarbonate, (not more than 42%, stable dispersion, in water) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DICETYL PEROXYDICARBONATE, (TECHNICALLY PURE) 4919238

ORGANIC PEROXIDE UN2164

Dicetyl peroxydicarbonate, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DICHLORBENIL (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4963809

ORM-E NA2769

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dichlobenil is a white solid dissolved in a liquid carrier. It is used as a herbicide. It is a water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DICHLORBENIL (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4963814

ORM-E NA2769

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dichlobenil is a white solid. It is used as a herbicide. It is a wettable powder. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

MCD 000017107

Environmental considerations—water spill

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DICHLONENIL (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4963805

ORM-E NA2769 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dichlobenil is a white solid or the solid dissolved in a liquid carrier. It is used as a herbicide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DICHLONE (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4960617

ORM-E NA2761 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Dichlone is a yellow crystalline solid dissolved in a liquid carrier. It is used as a fungicide. It is a water emulsifiable liquid. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

Use natural barriers or oil spill control booms to limit spill motion
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DICHLONE (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4960616

ORM-E NA2761 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Dichlone is a yellow crystalline solid. It is used as a fungicide. It is a wettable powder. It can cause illness by inhalation, skin absorption and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DICHLONE (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4960618

ORM-E NA2761 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Dichlone is a yellow crystalline solid or the solid dissolved in a liquid carrier. It is used as a fungicide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Continued on next page

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**DICHLOROACETIC ACID 4931420
CORROSIVE MATERIAL, ACIDIC UN1764**

Dichloroacetic acid is a colorless crystalline solid melting at 49 deg. F. It is soluble in water. It is corrosive to metals and tissue.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

**DICHLOROACETYL CHLORIDE 4931735
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN1765**

Dichloroacetyl chloride is a colorless, fuming liquid with a pungent odor. It is combustible and has a flash point of 151 deg. F. Its vapors are irritating to the eyes and mucous membranes. It is decomposed by water to dichloroacetic acid and hydrochloric acid, corrosive materials, with release of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire

Use dry chemical or carbon dioxide
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

**DICHLOROANILINE (POISONOUS SOLID, N.O.S.) 4921515
POISON B NA2811**

Dichloroaniline is an amber to brownish colored crystalline solid. It is used in the manufacture of dyes and pesticides. It is insoluble in water and is combustible. It is toxic by skin absorption and by inhalation (dust, etc.). Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

Use dry chemical or carbon dioxide
Cool all affected containers with flooding quantities of water
Use water in flooding quantities as fog

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

**DICHLOROBENZENE, ORTHO, LIQUID 4941127
ORM-A UN1591**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Dichlorobenzene, ortho, liquid is clear colorless liquid with a pleasant odor. It is used to make other chemicals, solvent, fumigant and insecticide, and for many other uses. It is combustible and has a flash point of 150 deg. F. It is heavier than water and is soluble in water

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash or cement powder
Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**DICHLOROBENZENE, PARA, SOLID 4941128
ORM-A UN1592****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)**

Dichlorobenzene, para, solid is a white crystalline volatile solid having the odor of moth balls. It is used as a moth repellent, to make other chemicals, as a fumigant, and for many other uses. It is heavier than water and insoluble in water. It will burn though it may take some effort to ignite.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

2,4-DICHLOROBENZOYL PEROXIDE, (NOT MORE THAN 52% AS A PASTE) **4919243**
ORGANIC PEROXIDE **UN2138**
2,4-dichlorobenzoyl peroxide, (not more than 52% as a paste) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection
Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

2,4-DICHLOROBENZOYL PEROXIDE, (NOT MORE THAN 52% IN SOLUTION) **4919244**
ORGANIC PEROXIDE **UN2139**
2,4-dichlorobenzoyl peroxide, (not more than 52% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection
Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

2,4-DICHLOROBENZOYL PEROXIDE, (NOT MORE THAN 75% WITH WATER) **4919242**
ORGANIC PEROXIDE **UN2137**
2,4-dichlorobenzoyl peroxide, (not more than 75% with water) is a white solid. It is used to manufacture paints, plastics, and rubber. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Continued on next page

MOD 000017110

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**DICHLOROBUTENE
FLAMMABLE LIQUID, CORROSIVE****4907605
NA2924**

Dichlorobutene is a clear colorless to straw colored liquid. It has a flash point of 80 deg. F. It is corrosive to metals and tissue. It is heavier than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

**DICHLOROBUTENE
CORROSIVE MATERIAL****4936312
NA2924**

Dichlorobutene is a clear colorless liquid. It is used to make other chemicals. It will burn though it may require some effort to ignite. It is corrosive to tissue. It is heavier than water and insoluble in water. It vapors are heavier than air.

If material on fire or involved in fire

Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical
Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

**DICHLORODIFLUOROMETHANE
NONFLAMMABLE GAS****4904516
UN1028**

Dichlorodifluoromethane is a colorless gas having a faint ethereal odor. It is shipped as a liquid under its own vapor pressure. It is non-combustible. It is heavier than air and can cause asphyxiation by the displacement of air. Contact with the liquid can cause frostbite. Toxic gases can be produced in fires involving this material.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire

Attempt to stop leak if without hazard

Personnel protection

Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

**DICHLORODIFLUOROMETHANE AND
DIFLUOROETHANE MIXTURE (CONSTANT
BOILING MIXTURE)****4904534****NONFLAMMABLE GAS****UN2602**

Dichlorodifluoromethane and difluoroethane mixture is a colorless gas having a faint ethereal odor. It is shipped as a liquefied gas under its own vapor pressure. Dichlorodifluoromethane is noncombustible; difluoroethane is a flammable gas. The vapor of dichlorodifluoromethane is heavier than that of difluoroethane and both are heavier than air. They can asphyxiate by the displacement of air. Contact with the liquid can cause frostbite. Toxic gases can be produced in fires involving this material.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire

Attempt to stop leak if without hazard

Personnel protection

Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

**DICHLORODIFLUOROMETHANE-
DICHLOTETRAFLUOROETHANE MIXTURE
NONFLAMMABLE GAS** **4904519**
NA1956

Dichlorodifluoromethane-dichlorotetrafluoroethane mixture is a colorless gas having a faint ethereal odor. It is shipped liquefied as a gas under its own vapor pressure. Both dichlorodifluoromethane and dichlorotetrafluoroethane are noncombustible. The two gases are heavier than air and can asphyxiate by the displacement of air in a closed space. Contact with the liquid can cause frostbite. Toxic gases can be produced in fires involving this material.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Attempt to stop leak if without hazard

Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

**DICHLORODIFLUOROMETHANE-
MONOCHLORODIFLUOROMETHANE MIXTURE
NONFLAMMABLE GAS** **4904522**
NA1956

Dichlorodifluoromethane-monochlorodifluoromethane mixture is a colorless gas; odorless to a faint chloroform like odor. It is shipped as a liquefied gas under its own vapor pressure. Both gases are noncombustible. They can asphyxiate by the displacement of air in a closed space. Contact with the liquid can cause frostbite.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Attempt to stop leak if without hazard

Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

**DICHLORODIFLUOROMETHANE-
MONOCHLOROTRIFLUOROMETHANE MIXTURE
NONFLAMMABLE GAS** **4904531**
NA1956

Dichlorodifluoromethane-monochlorotrifluoromethane mixture is a colorless gas with no odor to a faint ethereal-carbon tetrachloride odor. It is shipped as a liquefied gas under its own vapor pressure. Both gases are noncombustible. They can asphyxiate by the displacement of air. Contact with the liquid can cause frostbite.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Attempt to stop leak if without hazard

Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

**DICHLORODIFLUOROMETHANE-
TRICHLOROMONOFUOROMETHANE-
MONOCHLORODIFLUORO- METHANE MIXTURE
NONFLAMMABLE GAS** **4904525**
NA1956

Dichlorodifluoromethane-trichloromonofluoromethane-monochlorodifluoromethane mixture is a colorless gas. It is shipped as a liquefied gas under its own vapor pressure. Its odor varies from none to faintly ethereal or carbon tetrachloride like odor. All three gases are noncombustible. They can asphyxiate by the displacement of air. Contact with the liquid can cause frostbite.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Attempt to stop leak if without hazard

Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

**DICHLORODIFLUOROMETHANE-
TRICHLOROTRIFLUOROETHANE MIXTURE
NONFLAMMABLE GAS** **4904528**
NA1956

Dichlorodifluoromethane-trichlorotrifluoroethane mixture is a colorless odorless gas. It is shipped as a liquefied gas under its own vapor pressure. Both gases are noncombustible. It can asphyxiate by the displacement of air. Contact with the liquid can cause frostbite.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Attempt to stop leak if without hazard

Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

**DICHLOROETHYL ETHER (POISONOUS
LIQUID,N.O.S.)** **4921550**
POISON B **NA2810**

Dichloroethyl ether is a clear colorless liquid with a chloroform-like odor. It is used in cleaning compounds, in paints, in textile finishing, and as a general solvent. It is combustible and has a flash point of 131 deg. F. It is heavier than water and is insoluble in water. It is toxic by inhalation and skin absorption.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Continued on next page

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

DICHLOROETHYLENE 4909145
FLAMMABLE LIQUID UN1150

Dichloroethylene is a clear colorless liquid with an ether-like odor. It has a flash point of 36-39 deg. F. It is heavier than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

DICHLOROISOCYANURIC ACID (OXIDIZING 4918724
MATERIAL, N.O.S.)
OXIDIZER UN1479

Dichloroisocyanuric acid is a white crystalline solid with an odor of chlorine. It is used as a dry bleach in household cleaning compounds and in swimming pool disinfectants. The material itself is noncombustible but if contaminated with combustible material ignition can result. It will accelerate the burning of combustible materials. Contact with ammonium compounds or hydrated salts can cause a very vigorous chemical reaction. May vigorously react with small quantities of water releasing chlorine gas. Prolonged exposure of the material to fire or heat may result in its violent decomposition and rupturing of the container.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 2500 feet

DICHLOROISOPROPYL ETHER 4936315
CORROSIVE MATERIAL, COMBUSTIBLE UN249C

Dichloroisopropyl ether is a colorless liquid. It is combustible and has a flash point of 185 deg. F. It is heavier than water and insoluble in water. It is corrosive to metals and tissue.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Solid streams of water may be ineffective
 Use "alcohol" foam, carbon dioxide or dry chemical
 Use water spray to absorb vapors

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

DICHLOROPENTANE 4909147
FLAMMABLE LIQUID UN1152

Dichloropentane is a clear colorless to yellow liquid. It has a flash point of 90 deg. F. It is lighter than water and is insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

2,4-DICHLOROPHENOXYACETIC ACID 4941126
ORM-A NA2765
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)

2,4-dichlorophenoxyacetic acid is a white to yellow crystalline solid. It is used as a weed killer and defoliant. It is slightly soluble in water. It is non-combustible.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

MCD 000017113

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**2,4-DICHLOROPHOXYACETIC ACID ESTER
ORM-E**

**4962130
NA2765**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)

2,4-dichlorophenoxyacetic acid ester is a white solid. It is used as a herbicide and defoliant. It is slightly soluble in water.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**DICHLOROPHENYL TRICHLOROSILANE
CORROSIVE MATERIAL, ACIDIC**

**4934225
UN1766**

Dichlorophenyl trichlorosilane is a straw colored liquid with a pungent odor. Material will burn though it may require some effort to ignite. It is decomposed by moisture or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

DICHLOROPROPANE (See PROPYLENE DICHLORIDE 4909269)

**DICHLOROPROPENE
FLAMMABLE LIQUID**

**4909255
UN2047**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Dichloropropene is a clear colorless liquid. It is used to make other chemicals and as soil fumigant. It has a flash point of 95 deg. F. It is heavier than water and insoluble in water. Its vapors are heavier than air.

It weighs 10.2 pounds per gallon.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Combustion products include corrosive or toxic vapors
- Thermal decomposition to phosgene can occur

**DICHLOROPROPENE AND PROPYLENE DICHLORIDE 4907640
MIXTURE**

**FLAMMABLE LIQUID, CORROSIVE NA2047
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Dichloropropene and propylene dichloride mixture is a colorless liquid with a chloroform like odor. It is flammable and has a flash point below 100 deg. F. It is heavier than water and insoluble in water. It is corrosive to metals and tissue.

It weighs 9.9 pounds per gallon.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Combustion products include corrosive or toxic vapors
- Thermal decomposition to phosgene can occur

**2,2-DICHLOROPROPIONIC ACID 4931455
CORROSIVE MATERIAL NA1760**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

2,2-dichloropropionic acid is a colorless liquid. It is used as a herbicide. It is soluble in water. It is corrosive to metals and tissue.

It weighs 11.6 pounds per gallon.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

**DICHLORVOS (AGRICULTURAL INSECTICIDES, NEC, 4921534
LIQUID)**

**POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)**

Dichlorvos is a colorless to amber liquid. It is used as a pesticide. It is a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800 424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

**DICHLORVOS (AGRICULTURAL INSECTICIDES, NEC, 4921535
OTHER THAN LIQUID)**

**POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)**

Dichlorvos is a colorless to amber liquid absorbed on a dry carrier. It is used as a pesticide. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**DICHLORVOS (INSECTICIDES, OTHER THAN 4921536
AGRICULTURAL, NEC)**

**POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10 4.54)**

Dichlorvos is a colorless to amber liquid or the liquid absorbed on a dry carrier. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing

Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

**DICHLORVOS MIXTURE, DRY (AGRICULTURAL 4921537
INSECTICIDES, NEC, OTHER THAN LIQUID)**

**POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10 4.54)**

Dichlorvos mixture, dry is a colorless to amber liquid absorbed on a dry carrier. It is used as a pesticide. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**DICUMYL PEROXIDE (50% PEROXIDE) 4919545
ORGANIC PEROXIDE NA2121**

Dicumyl peroxide (50% peroxide) is a colorless to straw colored liquid. It may take some effort to ignite but once ignited it burns with increasing vigor as the fire progresses. It strongly supports the burning of combustible materials. If the containers of the peroxide are exposed to fire or heat for prolonged periods, they may explode.

Continued on next page

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Keep spilled material wet

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DICUMYL PEROXIDE, DRY **4919540**
ORGANIC PEROXIDE **UN2121**

Dicumyl peroxide, dry is a buff colored crystalline or lumpy solid. It is easily ignited and once ignited it burns with increasing vigor as the fire progresses. It strongly supports the burning of combustible material. If the containers of the peroxide are exposed to fire or heat for prolonged periods, they may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet

Personnel protection
 Avoid breathing vapors or dusts
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DICYCLOHEXYL PEROXYDICARBONATE, (NOT MORE THAN 91% WITH WATER) **4919248**
ORGANIC PEROXIDE **UN2153**

Dicyclohexyl peroxydicarbonate, (not more than 91% with water) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DICYCLOHEXYL PEROXYDICARBONATE, (TECHNICALLY PURE) **4919247**
ORGANIC PEROXIDE **UN2152**

Dicyclohexyl peroxydicarbonate, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DIELDRIN (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4941134
ORM-A NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Dieldrin is a light tan solid dissolved in a liquid carrier. It is used as a pesticide. It is a water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

- Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration -
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DIELDRIN (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4941135

ORM-A NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Dieldrin is a light tan solid. It is used as a pesticide. It is a wettable powder. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DIELDRIN (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4941133

ORM-A NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Dieldrin is a light tan solid or the solid dissolved in a liquid carrier. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DIESEL FUEL (See FUEL OIL 4915113)

DIETHYL BENZENE (COMBUSTIBLE LIQUID, N.O.S.) 4913135
COMBUSTIBLE LIQUID NA1993

Diethylbenzene is a clear colorless liquid with an aromatic odor. It has a flash point of 140 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

DIETHYL DICHLOROSILANE 4907609
FLAMMABLE LIQUID, CORROSIVE UN1767
Diethyl dichlorosilane is a colorless liquid with a pungent odor. It has a flash point of 77 deg. F. It is readily decomposed by water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use "alcohol" foam, carbon dioxide or dry chemical
Do not use water on material itself
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

DIETHYL KETONE 4909150
FLAMMABLE LIQUID UN1156
Diethyl ketone is a clear colorless liquid with an acetone-like odor. It has a flash point of 55 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

DIETHYL PEROXYDICARBONATE, (NOT MORE THAN 27% IN SOLUTION) 4919251
ORGANIC PEROXIDE UN2175

Diethyl peroxydicarbonate, (not more than 27% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection
Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DIETHYL SULFATE (CORROSIVE LIQUID, N.O.S.) 4933320
CORROSIVE MATERIAL, ACIDIC UN1760
Diethyl sulfate is a clear colorless liquid with a peppermint odor. It will burn though it may require some effort to ignite. It is heavier than water and is slowly decomposed by water to ethyl alcohol, a flammable liquid, and ethyl sulfate. It is corrosive to metals and tissue.

If material on fire or involved in fire
Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

DIETHYLAMINE 4907815
FLAMMABLE LIQUID, CORROSIVE, BASIC UN1154
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Diethylamine is a clear colorless liquid with an ammonia like odor. It has a flash point of -15 deg. F. It is a respiratory irritant and is corrosive to the eyes and skin. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

It weighs 5.9 pounds per gallon.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Use water spray to absorb vapors

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
 Neutralize with sodium bisulfate (nahso4)

Environmental considerations—water spill
 Add sodium bisulfate
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Vapor knockdown water is corrosive or toxic and should be diked for containment

DIETHYLAMINOETHANOL (COMBUSTIBLE LIQUID, N.O.S.) 4913186
COMBUSTIBLE LIQUID NA1993

Diethylaminoethanol is a clear colorless liquid. it is used to make other chemicals. it has a flash point of 140 deg. F. It is lighter than water and is soluble in water. its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 For scattered burning fusees, smother in dirt

If material not on fire and not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Keep upwind
 Avoid breathing vapors
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

DIETHYLENETRIAMINE (CORROSIVE LIQUID, N.O.S.) 4935631
CORROSIVE MATERIAL, BASIC UN1760

Diethylenetriamine is a yellow colored liquid with an ammonia-like odor. It is used as a solvent for plastics and dyes and in chemical synthesis. It is lighter than water and soluble in water. It will burn though it may take some effort to ignite. It is corrosive to metals and tissue. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

DIETHYLHYDROXYLAMINE (COMBUSTIBLE LIQUID, N.O.S.) 4913185
COMBUSTIBLE LIQUID NA1993

Diethylhydroxylamine is a clear colorless liquid. It is used in photography and as a corrosion inhibitor. It has a flash point of 113 deg. F. It is lighter than water and is soluble in water, its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid breathing vapors
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

1,1-DIFLUORO-1-CHLOROETHANE (See DIFLUOROMONOCHLOROETHANE 4904552)

DIFLUOROETHANE 4905716
FLAMMABLE GAS UN1030

Difluoroethane is colorless, odorless gas shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air and a flame can travel back to the source of leak very easily. This leak can be either a liquid or vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may violently rupture and rocket.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Wear self-contained breathing apparatus when fighting fires involving this material
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
 If material leaking (not on fire), downwind evacuation must be considered

DIFLUOROMONOCHLOROETHANE 4905719
FLAMMABLE GAS UN2517

Difluoromonochloroethane is a colorless gas shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapor is heavier than air and a flame can travel back to the source of leak very easily. The leak can either be a liquid or vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may violently rupture or rocket.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Wear self-contained breathing apparatus when fighting fires involving this material
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
 If material leaking (not on fire), downwind evacuation must be considered

DIFLUOROPHOSPHORIC ACID, ANYDROUS 4930214
CORROSIVE MATERIAL, ACIDIC UN1768

Difluorophosphoric acid is a colorless fuming liquid. It is soluble in water. It is corrosive to metals and tissue

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

2,2-DIHYDROPEROXY PROPANE, (NOT MORE THAN 25% WITH INERT ORGANIC SOLID) 4919253
ORGANIC PEROXIDE UN2178

2,2-dihydroperoxy propane, (not more than 25% with inert organic solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is slightly soluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**DIHYDROPYRAN
FLAMMABLE LIQUID**

**4908240
UN2376**

Dihydropyran is a clear colorless liquid with an ethereal odor. It has a flash point of 0 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

**DIISOBUTYL KETONE
COMBUSTIBLE LIQUID**

**4913140
UN1157**

Diisobutyl ketone is a clear colorless liquid. It has a flash point of 140 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog

Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**DIISOBUTYLAMINE (FLAMMABLE LIQUID, N.O.S.)
FLAMMABLE LIQUID**

**4909177
UN1993**

Diisobutylamine is a clear colorless liquid with a fish like odor. It has a flash point of 85 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

**DIISOBUTYLCARBINOL (COMBUSTIBLE LIQUID,
N.O.S.)
COMBUSTIBLE LIQUID**

**4913119
UN1987**

Diisobutylcarbinol is a colorless liquid. It has a flash point of 162 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Continued on next page

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**DIISOBUTYLENE (FLAMMABLE LIQUID, N.O.S.) 4909209
FLAMMABLE LIQUID UN1993**

Diisobutylene is a clear colorless liquid with a petroleum-like odor is used in the manufacture of other chemicals. It has a flash point of 10 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

DIISOBUTYRYL PEROXIDE, (NOT MORE THAN 52% IN SOLUTION) 4919255

ORGANIC PEROXIDE UN2182

Diisobutyl peroxide, (not more than 52% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**DIISOCTYL ACID PHOSPHATE 4933325
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN1902**

Diisooctyl acid phosphate is a colorless liquid. It will burn though it may require some effort to ignite. It is corrosive to metals and tissue

If material on fire or involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**DIISOPROPYL ETHER 4908195
FLAMMABLE LIQUID UN1159**

Diisopropyl ether is a clear colorless liquid with an ethereal odor. It has a flash point of -18 deg. F. On prolonged standing in contact with air peroxides may form which may explode spontaneously or if heated. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

MCD 000017123

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

**DIISOPROPYLAMINE
FLAMMABLE LIQUID****4909148
UN1158**

Diisopropylamine is a clear colorless liquid with an ammonia-like odor. It is used to make other chemicals. It has a flash point of 30 deg. F. It is lighter than water and is soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

DIISOPROPYLBENZENE HYDROPEROXIDE SOLUTION (NOT OVER 60% PEROXIDE)**4919130
UN2171**

Diisopropylbenzene hydroperoxide is a colorless to pale yellow liquid. It must be shipped in a non-volatile solvent not exceeding 60% concentration. It may take some effort to ignite but once ignited it burns with increasing vigor as the fire progresses. It strongly supports the burning of combustible materials. Under prolonged exposure to heat or fire containers of material can explode. Chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**DIISOTRIDECYL PEROXYDICARBONATE, (TECHNICALLY PURE)
ORGANIC PEROXIDE****4919257
UN2889**

Diisotridecyl peroxydicarbonate, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**DIMETHYL CARBONATE
FLAMMABLE LIQUID****4909154
UN1161**

Dimethyl carbonate is a clear, colorless liquid with a pleasant odor. It is used to make other chemicals and as a special purpose solvent. It has a flash point of 66 deg. F. It is heavier than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

DIMETHYL CHLOROTHIOPHOSPHATE 4933319
CORROSIVE MATERIAL, POISONOUS NA2922

Dimethyl chlorothiophosphate is a colorless to light amber liquid. It is used to make other chemicals, as a corrosion inhibitor, as a fuel and lubricant additive, and for many other uses. It is slightly soluble in water. It is corrosive to metals and tissue. It is toxic by inhalation, skin absorption, and/or ingestion.

If material involved in fire
Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

DIMETHYL ETHER 4905725
FLAMMABLE GAS UN1033

Dimethyl ether is a colorless gas with a faint ethereal odor. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air and a flame can flash back to the source of leak very easily. The leak can either be liquid or vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinder or tank car may violently rupture.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

DIMETHYL HYDRAZINE, UNSYMMETRICAL 4906210
FLAMMABLE LIQUID, POISONOUS, CORROSIVE UN1163
THERMALLY UNSTABLE

Unsymmetrical dimethylhydrazine is a clear colorless liquid with an ammonia like odor. It is used as a rocket propellant, to make other chemicals, and for many other uses. It has a flash point of 0. deg. F. It is flammable over a wide range of vapor-air concentrations. It may ignite spontaneously in contact with oxidizers. The vapors are toxic and attack the eyes and respiratory system. The liquid is corrosive to the skin. It is lighter than water and soluble in water. The vapors are heavier than air. Prolonged exposure of containers of the material to fire or heat may result in their violent rupturing and rocketing due to the decomposition of the material. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 5000 feet
If material leaking (not on fire), downwind evacuation must be considered

DIMETHYL PHOSPHOROCHLORIDOTHIOATE (See
DIMETHYL CHLOROTHIOPHOSPHATE 4933319)

DIMETHYL SULFATE 4933322
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN1595

Dimethyl sulfate is a colorless oily liquid, odorless to a faint onionlike odor. It is a combustible liquid and has a flash point of 182 deg. F. It is slightly soluble in water and decomposed by water to give sulfuric acid with evolution of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire
 Use dry chemical, carbon dioxide, or dry sand
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
 Use water spray to absorb vapors
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

DIMETHYL SULFIDE **4908151**
FLAMMABLE LIQUID **UN1164**
 Dimethyl sulfide is a clear colorless to straw colored liquid with a disagreeable odor. It has a flash point of less than 0. deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY) HEXANE, **4919260**
(NOT MORE THAN 82% WITH INERT SOLID)
ORGANIC PEROXIDE **UN2173**
 2,5-dimethyl-2,5-di-(benzoylperoxy) hexane, (not more than 82% with inert solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY) HEXANE, **4919259**
(TECHNICALLY PURE)
ORGANIC PEROXIDE **UN2172**
 2,5-dimethyl-2,5-di-(benzoylperoxy) hexane, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Continued on next page

MCD 000017126

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY) HEXANE, 4919263
(NOT MORE THAN 52% WITH INERT SOLID)
ORGANIC PEROXIDE UN2156

2,5-dimethyl-2,5-di-(tert-butylperoxy) hexane, (not more than 52% with inert solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY) HEXANE, 4919262
(TECHNICALLY PURE)
ORGANIC PEROXIDE UN2155

2,5-dimethyl-2,5-di-(tert-butylperoxy) hexane, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXYNE- 4919265
3, (NOT MORE THAN 52% WITH INERT SOLID)
ORGANIC PEROXIDE UN2159

2,5-dimethyl-2,5-di-(tert-butylperoxy)hexyne-3, (not more than 52% with inert solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXYNE-3, (TECHNICALLY PURE) 4919264
ORGANIC PEROXIDE UN2158

2,5-dimethyl-2,5-di-(tert-butylperoxy)hexyne-3, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

2,5-DIMETHYL-2,5-DI-(2-ETHYLHEXANOYLPEROXY) HEXANE, (TECHNICALLY PURE) 4919258
ORGANIC PEROXIDE UN2157

2,5-dimethyl-2,5-di-(2-ethylhexanoylperoxy) hexane, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

2,5-DIMETHYL-2,5-DIHYDROPEROXY HEXANE, (NOT MORE THAN 82% WITH WATER) 4919261
ORGANIC PEROXIDE UN2174

2,5-dimethyl-2,5-dihydroperoxy hexane, (not more than 82% with water) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DIMETHYLAMINE, ANHYDROUS 4905510
FLAMMABLE GAS, CORROSIVE UN1032
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dimethylamine anhydrous is a colorless gas with a fish-like odor at low concentrations changing to ammonia-like odor at higher concentrations. It is used to make other chemicals, as a solvent, as a solvent, and for many other uses. It is shipped as liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite or chemical type burns. The gas itself is corrosive and it is soluble in water to form flammable corrosive solutions. It is easily ignited. Its vapor is heavier than air and a flame can flash back to the source of leak very easily. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may rupture and rocket. Toxic oxides of nitrogen are produced during combustion of this material.

It weighs 5.5 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

Continued on next page

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
 if material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
 Neutralize with sodium bisulfate (nahso4)

Environmental considerations—water spill
 Use natural barriers or oil spill control booms to limit spill motion
 Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
 Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Add sodium bisulfate
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Vapor knockdown water is corrosive or toxic and should be diked for containment

DIMETHYLAMINE, AQUEOUS SOLUTION 4907820
FLAMMABLE LIQUID, CORROSIVE, BASIC UN1160
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dimethylamine, aqueous solution is the solution of dimethylamine, a gas, in water and has an odor ranging from a fish-like to ammonia-like as the vapor concentration increases. A 25% solution has a flash point of 54 deg. F. It is corrosive to the skin and eyes. The solution is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.
 It weighs 7.3 pounds per gallon.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Use water spray to absorb vapors

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material

Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
 Apply "universal" gelling agent to immobilize spill
 Neutralize with sodium bisulfate (nahso4)

Environmental considerations—water spill
 Add sodium bisulfate
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Vapor knockdown water is corrosive or toxic and should be diked for containment

DIMETHYLAMINOETHYL METHACRYLATE 4912218
(COMBUSTIBLE LIQUID, N.O.S.)
COMBUSTIBLE LIQUID NA1993
POLYMERIZABLE

Dimethylaminoethyl methacrylate is a clear colorless liquid. It is used to make plastics, in textiles, and for many other uses. its vapors are irritating to eyes and mucous membranes. It has a flash point of 165 deg. F. It is lighter than water and is insoluble in water. its vapor are heavier than air. If it becomes contaminated or is subject to heat, it may polymerize. if this polymerization takes place inside a container, the container may violently rupture. toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

DIMETHYLAMINOETHANOL (COMBUSTIBLE LIQUID, 4913184
N.O.S.)
COMBUSTIBLE LIQUID NA1993

Dimethylaminoethanol is a clear colorless liquid having a fish-like odor. It is used to make other chemicals. It has a flash point of 105 deg. F. It is lighter than water and is soluble in water. its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

MCD 000017129

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

2,3-DIMETHYLBUTANE 4908275
FLAMMABLE LIQUID UN2457
2, 3-dimethylbutane is a clear colorless liquid with a petroleum odor. It has a flash point of -20 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

1,4-DIMETHYLCYCLOHEXANE 4909156
FLAMMABLE LIQUID UN2263
1,4-dimethylcyclohexane is a clear, colorless liquid with a petroleum like odor. It has a flash point of 51 to 61 deg. F. It is lighter than water and is insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

DIMETHYLDICHLOROSILANE 4907610
FLAMMABLE LIQUID, CORROSIVE, ACIDIC UN1162
Dimethyldichlorosilane is a colorless fuming liquid with a pungent odor. It has a flash point of 16 deg. F. Vapor and liquid can cause burns. It is heavier than water and is decomposed by water to form hydrochloric acid, a corrosive material. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use "alcohol" foam, carbon dioxide or dry chemical
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

DIMETHYLETHYLAMINE (FLAMMABLE LIQUID, N.O.S.) 4907825
FLAMMABLE LIQUID UN1993
Dimethylethylamine is a clear colorless liquid with a strong odor that can vary from ammonia to fish-like. It is used in the manufacture of other chemicals. It has a flash point of 10 deg.f. Its vapors are irritating to the eyes and mucous membranes. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Use water spray to absorb vapors

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

DIMETHYLHEXANE DIHYDROPEROXIDE, (WITH 18% OR MORE WATER) 4919140
ORGANIC PEROXIDE UN2174
Dimethylhexane dihydroperoxide solution is a slurry or sludge of white crystals. Wet, the material requires some effort to ignite, but once ignited it burns very rapidly. Dry, the material is very easily ignited. In either condition it strongly supports the burning of combustible materials. Under prolonged exposure to heat or fire containers of the material can explode.

If material on fire or involved in fire
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection
Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DIMYRISTYL PEROXYDICARBONATE, (NOT MORE THAN 22%, STABLE DISPERSION, IN WATER) 4919270
ORGANIC PEROXIDE UN2892
Dimyristyl peroxydicarbonate, (not more than 22%, stable dispersion, in water) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection
Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DIMYRISTYL PEROXYDICARBONATE, (TECHNICALLY PURE) 4919269
ORGANIC PEROXIDE UN2595
Dimyristyl peroxydicarbonate, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection
Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

DINITROBENZENE, SOLID OR DINITROBENZOL, SOLID **4921421**

POISON B **UN1597**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dinitrobenzene, solid is a white or yellow crystalline solid. It is slightly soluble in water. It is toxic by skin absorption and by inhalation (dust, etc.). It is combustible. Prolonged exposure of the material to fire or heat may result in the spontaneous decomposition of the material with a resultant explosion. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DINITROBENZOL, SOLUTION **4921422**

POISON B **UN1597**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dinitrobenzol, solution is the colorless or yellow solution of dinitrobenzene in a suitable solvent. The flammability of the solution depends on the nature of the solvent. The material itself is combustible. It is toxic by skin absorption and inhalation. Prolonged exposure to fire or heat may result in spontaneous decomposition with a resultant explosion. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material

Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
- Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DINITROCHLOROBENZOL, SOLID OR DINITROCHLOROBENZENE

4921424

POISON B

UN1577

Dinitrochlorobenzol, solid is a colorless to yellow crystalline solid with an almond like odor. It is insoluble in water. It is combustible though it may require some effort to ignite. It is toxic by skin absorption or inhalation (dust, etc.). Prolonged exposure to fire or heat may result in spontaneous decomposition with a resultant explosion. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

DINITROPHENOL (FLAMMABLE SOLID, POISONOUS, N.O.S.)

4916626

FLAMMABLE SOLID, POISONOUS

UN1992

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dinitrophenol is a yellow crystalline solid, shipped water wet with at least 15 % water. It is used to make dyes, as a lumber preservative, and to make explosives. When not water wet it is a high explosive. Dry, the material is easily ignited and it will burn very vigorously. The wet material can burn though it may require some effort to ignite. It is slightly soluble in water. Toxic oxides of nitrogen are produced in fires involving this material.

If material on fire or involved in fire

- Dangerously explosive
- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

Continued on next page

MCD 000017132

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Do not attempt to sweep up dry material

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 5000 feet

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**DINITROPHENOL SOLUTION
POISON B**

**4921425
UN1599**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dinitrophenol solution is a yellow colored liquid of the yellow crystalline material dissolved in a suitable solvent. The material itself is very slightly soluble in water. The flammability of the solution depends on the nature of the solvent. Dinitrophenol itself is combustible though it may require some effort to ignite. It is toxic by skin absorption and inhalation. Prolonged exposure to fire or heat may result in the spontaneous decomposition and heating with a resultant explosion. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
- Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**DINITROTOLUENE, LIQUID
ORM-E**

**4963120
UN1600**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dinitrotoluene, liquid is a yellow colored liquid. It is used to make dyes, explosives, and other chemicals. It is insoluble in water. It is combustible though it may take some effort to ignite. Toxic oxides of nitrogen are produced during combustion of this material.

It weighs 10.6 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors or dusts
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
- Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
- Remove trapped material with suction hoses
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**DINITROTOLUENE, SOLID
ORM-E**

**4963115
UN1600**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Dinitrotoluene is a yellow crystalline solid. It is used to make dyes, explosives, and other chemicals. It is insoluble in water. It is combustible though it may take some effort to ignite. Toxic oxides of nitrogen are produced during the combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Avoid breathing vapors or dusts
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
Remove trapped material with suction hoses
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DIOXANE 4909155
FLAMMABLE LIQUID UN1165

Dioxane is a clear colorless liquid with a faint ethereal odor. It has a flash point of 55 deg. F. It is slightly heavier than water and is soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

DIOXOLANE 4909158
FLAMMABLE LIQUID UN1166

Dioxolane is a clear colorless liquid. It has a flash point of 35 deg. F. It is lighter than water and is soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

DIPHENYL DICHLOROSILANE 4934235
CORROSIVE MATERIAL, ACIDIC UN1769

Diphenyl dichlorosilane is a colorless liquid with a pungent odor. Material will burn though it may require some effort to ignite. It is decomposed by water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire

Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

DIPHENYL METHYL BROMIDE, SOLID 4936220
CORROSIVE MATERIAL UN1770

Diphenyl methyl bromide, solid is a white crystalline solid. It is insoluble in cold water and is decomposed by hot water producing hydrobromic acid, a corrosive material. It is corrosive to tissue.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection

Avoid breathing vapors
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

DIPHENYL METHYL BROMIDE, SOLUTION 4936225
CORROSIVE MATERIAL UN1770

Diphenyl methyl bromide, solution is the white crystalline solid dissolved in some solvent. The combustibility of the solution depends on the solvent used. Diphenyl methyl bromide is insoluble in cold water and is decomposed by hot water producing hydrobromic acid, a corrosive material. The solution is corrosive to metals and tissue.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

DIPHENYLAMINECHLOROARSINE 4925230
IRRITATING MATERIAL UN1698

Diphenylaminechloroarsine is in the form of yellow crystals. The vapors of this material are very irritating to the eyes and mucous membranes and are also nauseating.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical
 Cool all affected containers with flooding quantities of water
 Use water spray to absorb vapors

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

DIPHENYLCHLOROARSINE (IRRITATING AGENT, N.O.S.) 925240
IRRITATING MATERIAL NA1693

Diphenylchloroarsine is in the form of colorless crystals if pure otherwise a brown oily liquid. The vapors of the material are extremely irritating to the eyes and mucous membranes.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical
 Cool all affected containers with flooding quantities of water
 Use water spray to absorb vapors

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

DICUAT (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4963342
ORM-E NA2781
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Diquat is a yellow crystalline solid dissolved in a liquid carrier. It is used as a herbicide. It is a water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DICUAT (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4963344
ORM-E NA2781
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Diquat is a yellow crystalline solid. It is used as a herbicide. It is a wettable powder. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DIQUAT (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)**4963339****ORM-E****NA2781****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)**

Diquat is a yellow crystalline solid or the solid dissolved in a liquid carrier. It is used as a herbicide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DISINFECTANT, LIQUID POISON B**4923910 UN1601**

Disinfectant, liquid is a variable colored liquid. It is generally soluble in water. It is toxic by ingestion, inhalation (vapors, mists, etc.), or by skin absorption.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

DISINFECTANT, LIQUID CORROSIVE MATERIAL**4936561 UN1903**

Disinfectant, liquid is a variable colored liquid. It is generally soluble in water. It may be combustible though it may require some effort to ignite. It may be toxic by ingestion, inhalation (vapors, mists, etc.) or by skin absorption. It is corrosive to metals and/or tissue.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

DISINFECTANT, LIQUID, N.O.S. COMBUSTIBLE LIQUID**4915115 NA1993**

Disinfectant, liquid, n.o.s. is a variable colored liquid. It has a flash point between 100 and 199 deg. F. Although the material is not classed as a poison b, breathing of the vapors or skin contact with the liquid should be avoided. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

DISINFECTANT, SOLID 4923911
POISON B UN1601
 Disinfectant, solid is a variable colored solid. It is generally soluble in water. It is toxic by ingestion, inhalation (dusts), or by skin absorption.
If material on fire or involved in fire
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical
 Cool all affected containers with flooding quantities of water
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

DISPERSANT GASES, NEC (COMPRESSED GAS, N.O.S.) 4904536
NONFLAMMABLE GAS UN1956
 Dispersant gases, nec are materials which are shipped in containers under pressure. They may be mixtures consisting of nonflammable gas(es) (and flammable gas(es)) with the mixture being nonflammable. The mixture may separate with the flammable gas setting into low areas, or the nonflammable gas setting into low areas. It may asphyxiate by the displacement of air. It may only be shipped in cylinders. Toxic gases can be produced in fires involving this material.
If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
If material not involved in fire
 Attempt to stop leak if without hazard
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment

DISPERSANT GASES, NEC, FLAMMABLE (COMPRESSED GAS, N.O.S.) 4905727
FLAMMABLE GAS UN1954
 Dispersant gases are colorless gases shipped as liquefied gases under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air and a flame can flash back to the source of leak very easily. This leak may either be a liquid or vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinder or tank car may violently rupture and rocket.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Approach fire with caution
Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

DISULFOTON (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4921511
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
 Disulfoton is a pale yellow liquid. It is used as a pesticide. It is a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

DISULFOTON (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4921512
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
 Disulfoton is a pale yellow liquid absorbed on a dry carrier. It is used as a pesticide. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water

Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag
 barriers to trap material at bottom
 If dissolved, apply activated carbon at ten times the spilled amount
 in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of
 pollutants and precipitates

DISULFOTON (INSECTICIDES, OTHER THAN 4921513
AGRICULTURAL, NEC)
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Disulfoton is a pale yellow liquid or the liquid absorbed on a dry carrier.
 It is used as a pesticide. It is a wettable powder or water emulsifiable
 liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case
 of damage to, or leaking from containers of this material contact the
 pesticide safety team network. Telephone; 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or
 foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag
 barriers to trap material at bottom
 If dissolved, apply activated carbon at ten times the spilled amount
 in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of
 pollutants and precipitates

DISULFOTON MIXTURE, DRY (AGRICULTURAL 4921508
INSECTICIDES, NEC, OTHER THAN LIQUID)
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Disulfoton mixture, dry is the pale yellow liquid absorbed on a dry
 carrier. It is used as a pesticide. It is a wettable powder. It is toxic by
 inhalation, skin absorption, and/or ingestion. In case of damage to, or
 leaking from containers of this material contact the pesticide safety team
 network. Telephone; 800-424-9300.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water

Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag
 barriers to trap material at bottom
 If dissolved, apply activated carbon at ten times the spilled amount
 in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of
 pollutants and precipitates

DISULFOTON MIXTURE, LIQUID (AGRICULTURAL 4921509
INSECTICIDES, NEC, LIQUID)
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Disulfoton mixture, liquid is a pale yellow liquid. it is used as a pes-
 ticide. It is a water emulsifiable liquid. It is toxic by inhalation, skin
 absorption, and/or ingestion. In case of damage to, or leaking from
 containers of this material contact the pesticide safety team network.
 Telephone; 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

DITHIOCARBAMATE PESTICIDE, LIQUID, N.O.S. 4921632
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, LIQUID)

POISON B UN2771
 Dithiocarbamate pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may require some effort to ignite. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

DITHIOCARBAMATE PESTICIDE, LIQUID, N.O.S. 4921631
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)

POISON B UN2771
 Dithiocarbamate pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may require some effort to ignite. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

DITHIOCARBAMATE PESTICIDE, LIQUID, N.O.S. 4910532
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, LIQUID)

FLAMMABLE LIQUID UN2772
 Dithiocarbamate pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wear self-contained breathing apparatus when fighting fires involving this material

DITHIOCARBAMATE PESTICIDE, LIQUID, N.O.S. 4910531
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)

FLAMMABLE LIQUID UN2772

Dithiocarbamate pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wear self-contained breathing apparatus when fighting fires involving this material

DITHIOCARBAMATE PESTICIDE, SOLID, N.O.S. 4921634
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID)

POISON B UN2771

Dithiocarbamate pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

DITHIOCARBAMATE PESTICIDE, SOLID, N.O.S. 4921633
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)

POISON B UN2771

Dithiocarbamate pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

DIURON (AGRICULTURAL INSECTICIDES, NEC, 4962620
LIQUID)

ORM-E NA2767
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)

Diuron is a white crystalline solid dissolved in a liquid carrier. It is used as a herbicide. It is a water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DIURON (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4962621
ORM-E NA2767
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Diuron is a white crystalline solid. It is used as a herbicide. It is a wettable powder. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DIURON (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4962622
ORM-E NA2767
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Diuron is a white crystalline solid or the solid dissolved in a liquid carrier. It is used as a herbicide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DIVINYL ETHER 4908165
FLAMMABLE LIQUID UN1167
Divinyl ether is a clear colorless liquid. It has a flash point of less than -22 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

DODECYL TRICHLOROSILANE 4934240
CORROSIVE MATERIAL, ACIDIC UN1771
Dodecyl trichlorosilane is a colorless to yellow liquid with a pungent odor. Material will burn though it may take some effort to ignite. It is decomposed by moisture or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire
Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

DODECYLBENZENESULFONIC ACID 4931426
CORROSIVE MATERIAL NA2584
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Dodecylbenzenesulfonic acid is a colorless liquid. It is used to make detergents. It is soluble in water. It is corrosive to metals and tissue.

MCD 000017141

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Use water spray to absorb vapors

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

DRUGS OR MEDICINES, N.O.S. 4917376
FLAMMABLE SOLID NA1325

Drugs or medicines, n.o.s. is the proper shipping name of any solid material, other than one classed as an explosive, or specifically listed by name in the list of hazardous materials which is liable under conditions incident to transportation to cause fires through friction, absorption of moisture, spontaneous chemical changes as a result of retained heat from the manufacturing or processing of the solid, or which can be readily ignited by external sparks or flame and when so ignited burns vigorously and persistently. Try to ascertain the exact name of the material.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of fire

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Build dikes to contain flow as necessary

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

DRUGS OR MEDICINES, N.O.S. 4918410
OXIDIZER NA1479

Drugs or medicines, n.o.s. are various materials which have the property of accelerating the burning of combustible material. These materials may not burn by themselves. Prolonged exposure of these materials and/or their containers to fire or heat may result in an explosion. These materials may only be shipped in containers of 55 gallon capacity or less.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 1500 feet

DRUGS OR MEDICINES, N.O.S. (LIQUID) 4921427
POISON B NA2810

Drugs or medicines, n.o.s. (liquid) are liquid or solution of solids materials which have the property of being toxic by ingestion, inhalation, or skin absorption. The liquid or solution may or may not burn depending on the nature of the material and/or the solvent of the solution.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

DRUGS OR MEDICINES, N.O.S. (SOLID) 4921496
POISON B NA2811

Drugs or medicines, n.o.s. (solid) are pure materials or mixtures of two or more solids or liquids absorbed on a dry carrier. It has the property of being toxic by ingestion, inhalation (vapor dust, etc) or skin absorption.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Continued on next page

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**DRUGS, N.O.S.
COMBUSTIBLE LIQUID**

**4915191
NA1993**

Drugs, n.o.s. are those drugs with the property of having a flash point between 100 and 199 deg. F. They are generally lighter than water and soluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**DRUGS, N.O.S.
FLAMMABLE LIQUID**

**4910191
NA1993**

Drugs, n.o.s. are those drugs with the property of having a flash point of less than 100 deg. F. They are generally lighter than water and soluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**DRUGS, N.O.S., LIQUID
CORROSIVE MATERIAL**

**4936581
NA1760**

Drugs, n.o.s., liquid is the proper shipping name for various liquids having the property of being corrosive to steel or tissue. It may either be a simple liquid material or a solid material dissolved in a solvent. It may be combustible though requiring some effort to ignite. They may or may not be water soluble.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**DRUGS, N.O.S., SOLID
CORROSIVE MATERIAL**

**4936582
NA1759**

Drugs, n.o.s., solid is the proper shipping name for various colored solids having the property of being corrosive to tissue. They may or may not be water soluble.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

**DRY CLEANER, LIQUID, OR LIQUID CLEANSER
(COMPOUND, CLEANING, LIQUID)**

4910146

FLAMMABLE LIQUID

NA1993

Dry cleaner, liquid, or liquid cleanser is a variable colored liquid with a petroleum like odor. It has a flash point of less than 100 deg. F. It is lighter than water and generally insoluble in water. Its vapors are heavier than air.

med17142.1

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

DRY CLEANER, LIQUID, OR LIQUID CLEANSER 4915146
(COMPOUND, CLEANING, LIQUID)
COMBUSTIBLE LIQUID NA1993
Dry cleaner, liquid, or liquid cleanser is a variable colored liquid with a petroleum like odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and generally insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

DYE INTERMEDIATE, LIQUID 4936555
CORROSIVE MATERIAL UN2801
Dye intermediate, liquid is a variable colored material. It may be combustible though requiring some effort to ignite. It is corrosive to metals and/or tissue. It may or may not be water soluble.

If material on fire or involved in fire
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

ELECTRIC SQUIB 4903440
CLASS C EXPLOSIVE
Electric squib consists of a small tube or block containing a small amount of an ignition compound in contact with a bridge wire. The device may or may not have long lead wires attached to it.

If material on fire or involved in fire
Flood with water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

ELECTRIC WIRE SATURATING OR FINISHING 4915468
COMPOUND, ASPHALT OR PITCH BASE
(COMBUSTIBLE LIQUID, N.O.S.)
COMBUSTIBLE LIQUID NA1993
Electric wire saturating or finishing compound asphalt or pitch base is a material containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of this material is combustibility.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ELECTRIC WIRE SATURATING OR FINISHING 4910468
COMPOUND, ASPHALT OR PITCH BASE
(FLAMMABLE LIQUID, N.O.S.)
FLAMMABLE LIQUID UN1993
Electric wire saturating or finishing compound asphalt or pitch base is a material containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of this material is flammability.

Continued on next page

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ELECTRIC WIRE SATURATING OR FINISHING COMPOUND, PARAFFINE BASE (COMBUSTIBLE LIQUID, N.O.S.) **4915418**

COMBUSTIBLE LIQUID **NA1993**
Electric wire saturating or finishing compound is a material containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard is combustibility.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ELECTRIC WIRE SATURATING OR FINISHING COMPOUND, PARAFFINE BASE (FLAMMABLE LIQUID, N.O.S.) **4910418**

FLAMMABLE LIQUID **UN1993**
Electric wire saturating or finish compound is a material containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard is flammability.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ELECTROLYTE (ACID) BATTERY, FLUID **4930216**

CORROSIVE MATERIAL, ACIDIC **UN2796**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Electrolyte (acid), battery fluid is a sulfuric acid-water solution. It is a clear colorless odorless liquid. It is soluble in water with release of heat. It is corrosive to metals and to tissue.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash or cement powder
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—air spill
Apply water spray or mist to knock down vapors
Vapor knockdown water is corrosive or toxic and should be diked for containment

ELECTROLYTE (ACID) PACKED WITH BATTERY CHARGER, RADIO CURRENT SUPPLY DEVICE OR ELECTRONIC EQUIPMENT AND ACTUATING DEVICE) **4936564**

CORROSIVE MATERIAL, ACIDIC **NA2797**
Electrolyte (acid) packed with battery charger, radio current supply device or electronic equipment and actuating devices consist of containers of electrolyte (acid) packed in the same outside shipping container with battery charger, radio current supply device or electronic equipment and actuating devices. The electrolyte (acid) is soluble in water with evolution of heat. It is corrosive to metals and tissue.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Apply water from as far a distance as possible

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

ELECTROLYTE (ACID) PACKED WITH DRY STORAGE BATTERY 4930217

CORROSIVE MATERIAL NA2797

Electrolyte (acid) packed with dry storage battery is the dry (empty) storage battery and the electrolyte (acid) in a container packaged together in the same outside container. The electrolyte (acid) is a sulfuric acid-water solution. It is a clear colorless liquid. It is soluble in water with release of heat. It is corrosive to metals and tissue.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

EMBEDDING CEMENT, NEC (CEMENT, LIQUID, N.O.S.) 4910448
FLAMMABLE LIQUID NA1133

Embedding cement nec is a solution of various gums or resins in various solvents. The liquids are generally quite thick and may range from clear colorless to black "tars". The flash point of the cement depends on the solvents used but it will be less than 100 deg. F. The hazard is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

EMBEDDING CEMENT, NEC (CEMENT, LIQUID, N.O.S.) 4915448
COMBUSTIBLE LIQUID NA1133

Embedding cement nec is a solution of various gums or resins in various solvents. The liquids are generally quite thick and may range from clear colorless to black "tars." the flash point of the cement depends on the solvents used but it will be between 100 and 199 deg. F. The hazard is combustibility.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ENAMEL (ENAMEL OTHER THAN WATCH DIAL) 4910176
FLAMMABLE LIQUID UN1263

Enamel or watch dial may contain a flammable solvent. Its flash point is 100 deg. F. or lower. The hazard is that of flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ENAMEL (ENAMEL OTHER THAN WATCH DIAL) 4915176
COMBUSTIBLE LIQUID UN1263

Enamel is a variable colored liquid which may contain a combustible solvent. Its flash point is between 100 and 199 deg. F. The hazard is that of combustibility.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ENAMEL WHITENING COMPOUNDS (COMBUSTIBLE LIQUID, N.O.S.) 4915177
COMBUSTIBLE LIQUID NA1993
Enamel whitening compounds are clear colorless to white liquids. They have a flash point between 100 and 199 deg. F. They are generally lighter than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ENAMEL WHITENING COMPOUNDS (FLAMMABLE LIQUID, N.O.S.) 4910177
FLAMMABLE LIQUID UN1993
Enamel whitening compounds are clear colorless to white liquids. They have a flash point of less than 100 deg. F. They are generally lighter than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ENDOSULFAN (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4921516
POISON B NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
Endosulfan is a white solid dissolved in a liquid carrier. It is used as a pesticide. It is a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash or cement powder
Environmental considerations—water spill
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
Environmental considerations—air spill
Apply water spray or mist to knock down vapors

ENDOSULFAN (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4921517
POISON B NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
Endosulfan is a white solid it is used as a pesticide, fungicide, or herbicide. It is a wettable powder. It is toxic by inhalation, skin containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ENDOSULFAN (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)

4921518

POISON B

NA2761

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Endosulfan is a white solid or the solid dissolved in a liquid carrier. It is used as a pesticide, fungicide, or herbicide. It is a wettable powder or water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

ENDOSULFAN MIXTURE, LIQUID (AGRICULTURAL INSECTICIDES, NEC, LIQUID)

4921519

POISON B

NA2761

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Endosulfan mixture, liquid is the white solid dissolved in a liquid carrier. It is used as a pesticide. It is a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

ENDRIN (AGRICULTURAL INSECTICIDES, NEC, LIQUID)

4921521

POISON B

NA2761

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Endrin is a white solid dissolved in a liquid carrier. It is used as a pesticide. It is a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Continued on next page

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

ENDRIN (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4921522

POISON B NA2761 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Endrin is a white solid. It is used as a pesticide. It is wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ENDRIN (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4921523

POISON B NA2761 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Endrin is a white solid or the solid dissolved in a liquid carrier. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

ENDRIN MIXTURE, LIQUID (AGRICULTURAL INSECTICIDE, NEC, LIQUID) 4921520

POISON B NA2761 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Endrin mixture, liquid is a white solid dissolved in a liquid carrier. It is used as a pesticide. It is a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

- Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

ENGINE STARTING FLUID**4905728****FLAMMABLE GAS****UN1960**

Engine starting fluid is a flammable liquid in a container mixed with a flammable or nonflammable compressed gas as a propellant. It is easily ignited and may only be shipped in cylinders. It is heavier than air and a flame can flash back to the source of leak very easily. Under fire conditions the cylinders may violently rupture and rocket. If the cylinders are aerosols they will violently rupture and rocket under fire conditions.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet

EPICHLOROHYDRIN**4907420****FLAMMABLE LIQUID, POISONOUS****UN2023****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)**

Epichlorohydrin is a clear, colorless liquid with an irritating chloroform like odor. It is used to make plastics, and as a solvent. It has a flash point of 87 deg. F. If contaminated, the material is subject to polymerization with evolution of heat. If the polymerization takes place inside a container, the container is subject to rupture. It is irritating to the skin and respiratory system and is toxic by ingestion. It is heavier than water and soluble in water. Its vapors are heavier than air.

It weighs 9.8 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

- Apply "universal" gelling agent to immobilize spill

- Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

- Remove trapped material with suction hoses

- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Combustion products include corrosive or toxic vapors
- Thermal decomposition to phosgene can occur

ERADICATOR, PAINT OR GREASE, LIQUID**4910178****FLAMMABLE LIQUID****UN1850**

Eradicator, paint or grease, liquid is variable colored liquid generally having a petroleum odor. It has a flash point of less than 100 deg. F. It is generally lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETCHING ACID, LIQUID, N.O.S. 4930005
CORROSIVE MATERIALS, ACIDIC, POISONOUS NA1790
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Etching acid, liquid, n.o.s. is a colorless to pale yellow liquid composed of nitric acid, hydrofluoric acid, water and possibly acetic acid. It is soluble in water with release of heat. It is corrosive to metals and tissue.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

ETHANE 4905731
FLAMMABLE GAS UN1035

Ethane is a colorless odorless gas. It is easily ignited and may only be shipped in cylinders. It is heavier than air but a flame can easily flash back to the source of the leak very easily. It can asphyxiate by the displacement of air. Under fire conditions the cylinders may violently rupture and rocket.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet

ETHER (DIETHYL ETHER, ANESTHESIA GRADE) 4908157
FLAMMABLE LIQUID UN1155

Ethyl ether is a clear colorless liquid with a characteristic anesthetic odor. It is used as an anesthetic, as a solvent, and to make other chemicals. It has a flash point of -49 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

ETHER (DIETHYL ETHER, OTHER THAN ANESTHESIA GRADE) 4908156
FLAMMABLE LIQUID UN1155

Ether is a clear colorless liquid with a characteristic anesthetic odor. It has a flash point of -49 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

ETHION (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4921565
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)

Ethion is a colorless liquid. It is used as a pesticide. It is a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

ETHION (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4921566
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)

Ethion is a colorless liquid absorbed on a dry carrier. It is used as a pesticide. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ETHION (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4921567
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)

Ethion is a colorless liquid or the liquid absorbed on a dry carrier. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

ETHION MIXTURE, DRY (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN DRY LIQUID) 4921568
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)
Ethion mixture, dry is a colorless liquid absorbed on a dry carrier. It is used as a pesticide. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material

Keep upwind

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material

Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ETHYL ACETATE 4909160
FLAMMABLE LIQUID UN1173

Ethyl acetate is a clear colorless liquid with a fruity odor. It has a flash point of 24 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors

Keep upwind

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETHYL ACRYLATE, INHIBITED 4907215
FLAMMABLE LIQUID UN1917
POLYMERIZABLE

Ethyl acrylate is a clear colorless liquid with an acrid odor. It is used to make paints and plastics. It has a flash point of 60 deg. F. If the material is subjected to heat for prolonged periods or becomes contaminated it is subject to polymerization with evolution of heat. If the polymerization takes place inside a container the container may violently rupture. The material is lighter than water and slightly soluble in water. The vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may spread fire

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors

Keep upwind

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet

If material leaking (not on fire), downwind evacuation must be considered

ETHYL ALCOHOL (COLOGNE SPIRITS) 4909159
FLAMMABLE LIQUID NA1170

Ethyl alcohol is a clear colorless liquid with a characteristic odor. It has a flash point of 62 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors

Keep upwind

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETHYL ALCOHOL, ANHYDROUS, DENATURED IN PART WITH GASOLINE, GASOLINE CONTENT NOT TO EXCEED 5 PERCENT (ALCOHOL, N.O.S.) 4909110

FLAMMABLE LIQUID UN1987

Ethyl alcohol, anhydrous, denatured in part with gasoline is a colorless liquid with a characteristic alcohol odor. It is used for blending with gasoline to make gasohol. It has a flash point of 58-60 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETHYL ALDEHYDE (See ACETALDEHYDE 4907210)

ETHYL BENZENE 4909163
FLAMMABLE LIQUID UN1175

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Ethyl benzene is a clear colorless liquid with an aromatic odor. It is used as a solvent and to make other chemicals. It has a flash point of 59 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

It weighs 7.2 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

- Apply "universal" gelling agent to immobilize spill
- Apply fluorocarbon-water foam to diminish vapor and fire hazard
- Environmental considerations—water spill**
- Use natural barriers or oil spill control booms to limit spill motion
- Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
- Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
- Environmental considerations—air spill**
- Apply water spray or mist to knock down vapors

ETHYL BORATE 4909161
FLAMMABLE LIQUID UN1176

Ethyl borate is a clear colorless liquid. It has a flash point of 52 deg. F. It is lighter than water and is decomposed by water giving ethyl alcohol, another flammable liquid. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETHYL BUTYL ACETATE 4913113
COMBUSTIBLE LIQUID UN1177

Ethyl butyl acetate is a clear colorless liquid. It has a flash point of 130 deg. F. It is heavier than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETHYL BUTYL ETHER 4909164
FLAMMABLE LIQUID UN1179

Ethyl butyl ether is a clear, colorless liquid with an ethereal odor. It has a flash point of 40 deg. F. It is lighter than water and is slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETHYL BUTYRALDEHYDE 4909168
FLAMMABLE LIQUID UN1178

Ethyl butyraldehyde is a clear, colorless liquid. It has a flash point of 70 deg. F. It is lighter than water and is insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETHYL BUTYRATE 4909132
FLAMMABLE LIQUID UN1180

Ethyl butyrate is a clear colorless liquid with a pineapple-like odor. It has a flash point of 78 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETHYL CHLOROACETATE 4913114
COMBUSTIBLE LIQUID UN1181

Ethyl chloroacetate is a clear colorless liquid with a pungent odor. It has a flash point of 100 deg. F. It is heavier than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

ETHYL CHLOROFORMATE 4907817
FLAMMABLE LIQUID, CORROSIVE UN1182

Ethyl chloroformate is a colorless liquid with a pungent odor. It has a flash point of 66 deg. F. Its vapor is irritating to the eyes and mucous membranes. It is corrosive to metals and tissue. It is decomposed by water to give hydrochloric acid, a corrosive material, with evolution of heat. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use "alcohol" foam, carbon dioxide or dry chemical
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

**ETHYL CHLOROTHIOFORMATE
CORROSIVE MATERIAL****4933327
UN2826**

Ethyl chlorothioformate is an amber colored liquid with a pungent penetrating odor. It is combustible and has a flash point of 125 deg. F. The vapors are irritating to the eyes and respiratory system. It is corrosive to metals and tissue. It is heavier than water and reacts with water forming hydrochloric acid, another corrosive material, with evolution of heat. Its vapors are heavier than air.

If material on fire or involved in fire

Use "alcohol" foam, carbon dioxide or dry chemical
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**ETHYL CROTONATE
FLAMMABLE LIQUID****4909162
UN1862**

Ethyl crotonate is a clear colorless liquid with a pungent odor. It has a flash point of 36 deg. F. It is lighter than water and is insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**ETHYL DICHLOROSILANE
FLAMMABLE LIQUID, CORROSIVE, ACIDIC****4907615
UN1183**

Ethylchlorosilane is a colorless fuming liquid with a pungent odor. It has a flash point of 30 deg. F. Vapor and liquid can cause burns. It is heavier than water and is decomposed by water to form hydrochloric acid, a corrosive material. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use "alcohol" foam, carbon dioxide or dry chemical
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

**ETHYL FORMATE
FLAMMABLE LIQUID****4908167
UN1190**

Ethyl formate is a clear colorless liquid with a pleasant odor. It has a flash point of -4 deg. F. It is lighter than water and soluble in water. It is slowly decomposed by water to formic acid, a corrosive material and ethyl alcohol, another flammable liquid. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use "alcohol" foam, carbon dioxide or dry chemical
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Do not use water on material itself

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Do not use water on material itself

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Continued on next page

MCD 000017155

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

**ETHYL HEXALDEHYDE
COMBUSTIBLE LIQUID**

**4913164
UN1191**

Ethyl hexaldehyde is a clear colorless liquid with a mild odor. It has a flash point of 125 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**ETHYL LACTATE
COMBUSTIBLE LIQUID**

**4913165
UN1192**

Ethyl lactate is a clear colorless liquid with a mild odor. It has a flash point of 115 deg. F. It is heavier than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**ETHYL MERCAPTAN
FLAMMABLE LIQUID**

**4908169
UN2363**

Ethyl mercaptan is a clear colorless liquid with an overpowering garlic like odor. It has a flash point of -55 deg. F. and a boiling point of 97 deg. F. It is lighter than water and very slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

**ETHYL METHYL ETHER
FLAMMABLE LIQUID**

**4908171
UN1039**

Ethyl methyl ether is a clear colorless liquid with a medicinal like odor. It has a flash point of -35 deg. F. and a boiling point of 52 deg. F. Upon prolonged standing, or exposure to sunlight or oxygen; peroxides may form which may explode spontaneously or when heated. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

ETHYL NITRATE
FLAMMABLE LIQUID
THERMALLY UNSTABLE

4907010
NA1993

Ethyl nitrate is a clear, colorless liquid with a pleasant odor. It has flash point of 50 deg. F. Prolonged exposure of the material to heat may result in the spontaneous decomposition of the material and this decomposition may reach explosive violence. Prolonged exposure of the containers of the material to fire or heat may result in the violent rupturing of the containers due to the decomposition of the material. It is heavier than water and insoluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
- If material leaking (not on fire), downwind evacuation must be considered

ETHYL NITRITE
FLAMMABLE LIQUID
THERMALLY UNSTABLE

4907020
UN1194

Ethyl nitrite is a clear colorless to yellow liquid. It has a flash point of 31 deg. f, and a boiling point of 63. deg. F. It is flammable over a wide range of vapor-air concentrations. The vapors may ignite spontaneously at 194 deg. f, and its decomposition may reach explosive violence. It is decomposed by heat and light. Prolonged exposure to heat or fire by the containers of the material may result in their violently rupturing due to the decomposition of the material. It is lighter than water and insoluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
- If material leaking (not on fire), downwind evacuation must be considered

ETHYL PHENYL DICHLOROSILANE
CORROSIVE MATERIAL, ACIDIC

4934245
UN2435

Ethyl phenyl dichlorosilane is a colorless liquid with a pungent odor. It is decomposed by water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

ETHYL PHOSPHONOTHIOIC DICHLORIDE,
ANHYDROUS
CORROSIVE MATERIAL

4833355

NA1760

Ethyl phosphonothioic dichloride, anhydrous is a clear colorless liquid with a pungent odor. It will burn though it may require some effort to ignite. It is heavier than water and reacts with water forming hydrochloric acid, a corrosive material, with release of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire

- Use "alcohol" foam, carbon dioxide or dry chemical
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Continued on next page

MCD 000017157

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**ETHYL PHOSPHONOUS DICHLORIDE, ANHYDROUS
CORROSIVE MATERIAL, ACIDIC
PYROFORIC****4933332
NA2845**

Ethyl phosphonous dichloride, anhydrous is a colorless liquid with a pungent odor. It is pyroforic and will spontaneously ignite on contact with moist air or water. It is heavier than water and besides igniting on contact with water hydrochloric acid, a corrosive material, is produced. It is corrosive to metals and tissue.

If material on fire or involved in fire

Use "alcohol" foam, carbon dioxide or dry chemical
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**ETHYL PHOSPHORODICHLORIDATE
CORROSIVE MATERIAL, ACIDIC****4933333
NA1760**

Ethyl phosphorodichloridate is a clear colorless liquid with a pungent odor. It reacts with water giving hydrochloric and phosphoric acids, which are also corrosive materials. It is corrosive to metals and tissue.

If material on fire or involved in fire

Use "alcohol" foam, carbon dioxide or dry chemical
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind

Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**ETHYL PROPIONATE
FLAMMABLE LIQUID****4909170
UN1195**

Ethyl propionate is a clear colorless liquid with a pineapple like odor. It has a flash point of 54 deg. F. It is lighter than water and is insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**ETHYL SILICATE
COMBUSTIBLE LIQUID****4913166
UN1292**

Ethyl silicate is a clear colorless liquid with a faint odor. It has a flash point of 125 deg. F. It is lighter than water and reacts with water forming a silicone adhesive, a milky white mass. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**ETHYL-N-BUTYLAMINE (FLAMMABLE LIQUID, N.O.S.)
FLAMMABLE LIQUID****4909173
UN1993**

Ethyl-n-butylamine is a clear colorless liquid with a fish like odor. It has a flash point of 65 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

ETHYL-N-CYCLOHEXYLAMINE (FLAMMABLE LIQUID, N.O.S.) 4909165

FLAMMABLE LIQUID UN1993

Ethyl-n-cyclohexylamine is a clear colorless liquid with an ammonia like odor. It has a flash point of 86 deg. F. It is lighter than water and is slightly soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

ETHYL-3,3-DI-(TERT-BUTYLPEROXY)BUTYRATE, (TECHNICALLY PURE) 4919275

ORGANIC PEROXIDE UN2184

Ethyl-3,3-di-(tert-butylperoxy)butyrate, (technically pure) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

ETHYL-3,3-DI-(TERT-BUTYLPEROXY)BUTYRATE, (NOT MORE THAN 50% WITH INERT INORGANIC SOLID) 4919273

ORGANIC PEROXIDE UN2598

Ethyl-3,3-di-(tert-butylperoxy)butyrate, (not more than 50% with inert inorganic solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Continued on next page

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**ETHYL-3,3-DI-(TERT-BUTYLPEROXY)BUTYRATE, 4919274
(NOT MORE THAN 77% IN SOLUTION)**

ORGANIC PEROXIDE UN2185

Ethyl-3,3-di-(tert-butylperoxy)butyrate, (not more than 77% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**ETHYLCHLORIDE 4908162
FLAMMABLE LIQUID UN1037**

Ethyl chloride is a clear colorless liquid with a pungent odor. It has a flash point of -58 deg. F. and a boiling point of 54 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

**ETHYLENE 4905734
FLAMMABLE GAS UN1962**

Ethylene is a colorless gas with a sweet odor and taste. It is easily ignited. The gas is lighter than air but a flame can flash back to the source of the leak very easily. Under fire conditions cylinder of the gas may violently rupture and rocket.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

**ETHYLENE CHLOROHYDRIN 4921420
POISON B, COMBUSTIBLE UN1135**

Ethylene chlorohydrin is a colorless liquid with an ether-like odor. It is soluble in water and is also a combustible liquid. Its vapors are heavier than air and it is toxic by inhalation and skin absorption.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

MCD 000017160

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If material leaking (not on fire), downwind evacuation must be considered

ETHYLENE DIBROMIDE (OR) 1,2-DIBROMOETHANE 4940335
ORM-A UN1605

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Ethylene dibromide is a clear colorless liquid with a sweetish odor. It is used as a solvent, as a grain fumigant, in the manufacture of other chemicals, and for many other uses. It is heavier than water and slightly soluble in water. It is non-combustible. It can cause illness by inhalation, skin absorption and/or ingestion.

It weighs 18.1 pounds per gallon.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ETHYLENE DICHLORIDE 4909166
FLAMMABLE LIQUID UN1184

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Ethylene dichloride is a clear colorless liquid with a chloroform-like odor. It has a flash point of 56 deg. F. It is heavier than water and insoluble in water. Its vapors are heavier than air.

It weighs 10.4 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Apply "universal" gelling agent to immobilize spill

Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Thermal decomposition to phosgene can occur

ETHYLENE GLYCOL DIETHYL ETHER 4913115
COMBUSTIBLE LIQUID UN1153

Ethylene glycol diethyl ether is a clear colorless liquid with a faint ether-like odor. It has a flash point of 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETHYLENE GLYCOL MONOETHYL ETHER 4913116
COMBUSTIBLE LIQUID UN1171

Ethylene glycol monoethyl ether is a clear colorless liquid. It has a flash point of 120 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

Continued on next page

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE 4913117
COMBUSTIBLE LIQUID UN1172
Ethylene glycol monoethyl ether acetate is a clear colorless liquid with a pleasant odor. It has a flash point of 120 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETHYLENE GLYCOL MONOMETHYL ETHER 4913162
COMBUSTIBLE LIQUID UN1188
Ethylene glycol monomethyl ether is a clear colorless liquid with a pleasant odor. It has a flash point of 110 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE 4913163
COMBUSTIBLE LIQUID UN1189
Ethylene glycol monomethyl ether acetate is a clear colorless liquid with a pleasant odor. It has a flash point of 135 deg. F. It is heavier than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ETHYLENE IMINE, INHIBITED 4906220
FLAMMABLE LIQUID, POISONOUS UN1185
THERMALLY UNSTABLE
Ethylene imine is a clear, colorless liquid with an ammonia-like odor. It has a flash point of 12 deg. F. It is flammable over a wide range of vapor-air concentrations. The vapors are initially irritating to the skin, eyes, nose, and throat. Prolonged exposure may result in death due to inhalation, skin absorption, or ingestion. It is lighter than water and soluble in water. The vapors are heavier than air. Prolonged exposure of containers of the material to fire or heat may result in its polymerization and a violent rupturing of the container. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

MCD 000017162

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Adjust pH to neutral (pH-7)
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust pH to neutral (pH-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CUPRIC TARTRATE

4962614

ORM-E

NA9111

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)

Cupric tartrate is a green to blue powder. It is used for electroplating metals. It is insoluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

CUPRIETHYLENE-DIAMINE SOLUTION

4935630

CORROSIVE MATERIAL, BASIC

UN1761

Cupriethylene-diamine solution is a purple colored liquid with an ammonia like odor. It is soluble in water. It is corrosive to metals and tissue. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

CUTCH, CATECHU, OR JAPONICA EXTRACTS, LIQUID (COMBUSTIBLE LIQUID, N.O.S.)

4915432

COMBUSTIBLE LIQUID

NA1993

Cutch, catechu, or japonica extracts, liquid are materials containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of these materials is combustibility.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

CUTCH, CATECHU, OR JAPONICA EXTRACTS, LIQUID (FLAMMABLE LIQUID, N.O.S.)

4910432

FLAMMABLE LIQUID

UN1993

Cutch, catechu, or japonica extracts, liquid are materials containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of these materials is flammability.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
 Neutralize with sodium bisulfate (nahso4)

Environmental considerations—water spill
 Use natural barriers or oil spill control booms to limit spill motion
 Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
 Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
 Add sodium bisulfate
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Vapor knockdown water is corrosive or toxic and should be diked for containment

ETHYLENEDIAMINETETRAACETIC ACID (OR) EDTA 4966910
ORM-E NA9117
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
 Ethylenediaminetetraacetic acid is colorless crystalline solid. It is used in chemical analysis, to make detergents and cleaning compounds, and for many other uses. It is slightly soluble in water. It is non-combustible.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Add caustic soda
 Adjust ph to neutral (ph-7)
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ETHYLHEXYLACRYLATE (COMBUSTIBLE LIQUID, 4912220
N.O.S.)
COMBUSTIBLE LIQUID NA1993
 Ethylhexylacrylate is a clear colorless liquid with a pleasant odor. It is used in making of paints and plastics. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet

ETHYLTRICHLOROSILANE 4907620
FLAMMABLE LIQUID, CORROSIVE ACIDIC UN1196
 Ethyltrichlorosilane is a colorless fuming liquid with a pungent odor. It has a flash point of 57 deg. F. Vapor and liquid can cause burns. It is heavier than water and is decomposed by water to form hydrochloric acid, a corrosive material. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use "alcohol" foam, carbon dioxide or dry chemical
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
 Use water spray to absorb vapors

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

MCD 000017164

ETIOLOGIC AGENT, N.O.S. (OR) INFECTIOUS SUBSTANCE, HUMAN, N.O.S. **4925999**
ETIOLOGIC AGENT **NA2814**
Etiologic agent or infectious substance, human is a viable microorganism or its toxin which causes or may cause human disease. In case of damage to, or leaking of the package contact-
Director, center for disease control
Atlanta, georgia its toxin which causes or may cause human disease. In case of damage to, or leaking of the package contact- corrosive material. Its vapors are heavier than air.

EXPLOSIVE AUTO ALARM **4903420**
CLASS C EXPLOSIVE
Explosive auto alarm is a tubular device containing a small amount of explosive composition and igniting compound which is ignited by an electric spark.
If material on fire or involved in fire
Dangerously explosive
Flood with water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

EXPLOSIVE BOMB **4901230**
CLASS A EXPLOSIVE
Explosive bomb is a metal or other type of container filled with a high explosive. It may be shipped either fuzed or unfuzed. The fuzed bomb may be sensitive to shock or mechanical impact. Under prolonged exposure to heat or fire it can explode.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

EXPLOSIVE CABLE CUTTER **4903310**
CLASS C EXPLOSIVE
Explosive cable cutter is a device containing an explosive charge used to propel a knife-edged component into an anvil.
If material on fire or involved in fire
Flood with water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

EXPLOSIVE MINE **4901235**
CLASS A EXPLOSIVE
Explosive mine is a metal or composition container filled with a high explosive. It may be shipped either fuzed or unfuzed. The fuzed mine may be sensitive to shock or mechanical impact. Under prolonged exposure to heat or fire it can explode.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

EXPLOSIVE POWER DEVICE, CLASS B **4902570**
CLASS B EXPLOSIVE
Explosive power device, class b is a device designed to drive a generator or mechanical apparatus by means of a propellant explosive, class b. The device has a housing containing the propellant explosive and an electric igniter or squib. The explosive power device class b differs from an explosive power device, class c by the amount of the propellant explosive.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

EXPLOSIVE POWER DEVICE, CLASS C **4903480**
CLASS C EXPLOSIVES
Explosive power device, class c is a device designed to drive a generator or mechanical apparatus by means of a propellant explosive class b. The device has a housing containing the propellant explosive and an electric igniter or squib. The explosive power device, class c differs from an explosive power device, class b by the amount of propellant explosive or the power of the propellant explosive.
If material on fire or involved in fire
Flood with water
Apply water from as far a distance as possible

Continued on next page

MCD 000017165

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

EXPLOSIVE PROJECTILE 4901240
CLASS A EXPLOSIVE
Explosive projectile is a shell, projectile, warhead, or rocket head loaded with explosives or bursting charges with or without other materials. It may be shipped either fused or unfused. The fused projectile may be sensitive to shock or mechanical impact. Under prolonged exposure to heat or fire it can explode.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

EXPLOSIVE RELEASE DEVICE 4903315
CLASS C EXPLOSIVE
Explosive release device consists of a rod or link fitted with a means for mechanical attachment to other apparatus or equipment and containing a small electrically initiated explosive charge which will break the rod or link upon functioning.
If material on fire or involved in fire
Flood with water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

EXPLOSIVE RIVET 4903425
CLASS C EXPLOSIVE
Explosive rivet is an ordinary rivet having a cavity in the end opposite to the rivet head. The cavity is filled with an explosive composition. It functions on application of heat or impact by expanding.
If material on fire or involved in fire
Dangerously explosive
Flood with water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

EXPLOSIVE TORPEDO 4901245
CLASS A EXPLOSIVE
Explosive torpedo is a metal device containing a propulsion device and a quantity of high explosives. It may be shipped either fused or unfused. It may be sensitive to shock or mechanical impact. Under prolonged exposure to heat or fire it can explode.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

EXTRACT, LIQUID, FLAVORING 4910181
FLAMMABLE LIQUID UN1197
Extract, liquid, flavoring is generally an alcoholic extract of various vegetable products used for flavoring food. It has a flash point of less than 100 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to disperse vapors and dilute standing pools of liquid
Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

EXTRACTS, CHESTNUT OR QUEBRACHO, LIQUID 4915430
(COMBUSTIBLE LIQUID, N.O.S.)
COMBUSTIBLE LIQUID NA1993
Extracts, chestnut or quebracho, liquid are materials containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard is combustibility.

MCD 000017166

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

EXTRACTS, CHESTNUT OR QUEBRACHO, LIQUID (FLAMMABLE LIQUIDS, N.O.S.) **4910430**
FLAMMABLE LIQUID **UN1993**
 Extracts, chestnut or quebracho, liquid are materials containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard is flammability.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

EXTRACTS, FUSTIC OR LOGWOOD, LIQUID OR PASTE (COMBUSTIBLE LIQUID, N.O.S.) **4915434**
COMBUSTIBLE LIQUID **NA1993**
 Extracts, fustic or logwood liquid or paste are materials containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of these materials is combustibility.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

EXTRACTS, FUSTIC OR LOGWOOD, LIQUID OR PASTE (FLAMMABLE LIQUID, N.O.S.) **4910434**
FLAMMABLE LIQUID **UN1993**
 Extracts, fustic or log wood liquid or paste are materials containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of these materials is flammability.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

EXTRACTS, HYPERNIC LIQUID OR PASTE (COMBUSTIBLE LIQUID, N.O.S.) **4915438**
COMBUSTIBLE LIQUID **NA1993**
 Extracts, hypernic, liquid or paste are materials containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of these materials is combustibility.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

EXTRACTS, HYPERNIC LIQUID OR PASTE (FLAMMABLE LIQUID, N.O.S.) **4910438**
FLAMMABLE LIQUID **UN1993**
 Extracts, hypernic, liquid or paste are materials containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of these materials is flammability.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep material out of water sources and sewers
 Keep sparks, flames, and other sources of ignition away
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

EXTRACTS, TANNING, NEC LIQUID OR PASTE (COMBUSTIBLE LIQUID, N.O.S.) **4915440**
COMBUSTIBLE LIQUID **NA1993**
 Extracts, tanning, nec liquid or paste are materials containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of these materials is combustibility.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

EXTRACTS, TANNING, NEC LIQUID OR PASTE(FLAMMABLE LIQUID, N.O.S.) **4910440**
FLAMMABLE LIQUID **UN1993**
 Extracts, tanning, nec liquid or paste are materials containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of these materials is flammability.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

FATTY ALCOHOLS, ALIPHATIC OR CYCLIC, CYANOETHYLATED AND HYDROGENATED, AND DERIVATIVES THEREOF SUCH AS SALTS DIAMINES, OXYALKYLATES AND QUANTERNARY AMMONIUM COMPOUNDS (ALKALINE CORROSIVE LIQUID, N.O.S.) **4935223**
CORROSIVE MATERIAL, BASIC **NA1719**
 Fatty alcohols, aliphatic or cyclic, cyanoethylated or hydrogenated and derivatives thereof such as salts, diamines, oxyalkylates and quaternary ammonium compounds are colorless to milky or amber colored liquid. They will burn though they may require some effort to ignite. They are lighter than water and may or may not be soluble in water. They are corrosive to metals and/or tissue.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

FATTY ALCOHOLS, ANIMAL FAT OR ANIMAL, FISH, PETROLEUM, SEA-ANIMAL OR VEGETABLE OILS, NEC, WHEN BLENDED WITH EACH OTHER, LIQUID (ALCOHOL, N.O.S.) **4915546**
COMBUSTIBLE LIQUID **UN1987**
 Fatty alcohols are clear colorless to light colored liquids. They have a flash point between 100 and 200 deg. F. They are lighter than water and insoluble in water. Their vapors are heavier than air.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

FEEDING TANKAGE, NEC (FLAMMABLE SOLID, N.O.S.) 4917412
FLAMMABLE SOLID NA1325
Feeding tankage, nec is various scrap food products. If it has not been properly cooled or is too dry it is liable to spontaneous heating and ignition.
If material on fire or involved in fire
Flood with water
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

FELT, WASTE, WET (See WASTE WOOL, WET 4917372)

FERRIC AMMONIUM CITRATE 4963349
ORM-E NA9118
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Ferric ammonium citrate is a yellowish brown to red solid with a faint odor of ammonia. It is used in medicine, in making blueprints, and as a feed additive. It is soluble in water. It is non-combustible.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water
Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

FERRIC AMMONIUM OXALATE 4963352
ORM-E NA9119
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Ferric ammonium oxalate is a green crystalline solid. It is used in making blueprints. It is soluble in water. It is non-combustible.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water
Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

FERRIC ARSENATE, SOLID 4923231
POISON B UN1606
Ferric arsenate, solid is a green or brown powder. It is insoluble in water. It is toxic by ingestion.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical
If material not involved in fire
Keep material out of water sources and sewers
Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

FERRIC ARSENITE, SOLID 4923232
POISON B UN1607
Ferric arsenite is a yellow-brown powder. It is insoluble in water. It is toxic by ingestion.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical
If material not involved in fire
Keep material out of water sources and sewers
Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

FERRIC CHLORIDE SOLID 4944138
ORM-B UN1773
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Ferric chloride is an orange to brown black solid. It is used to treat sewage, industrial waste, to purify water, as an etching agent for engraving circuit boards, and in the manufacture of other chemicals. It is soluble in water. It is non-combustible. It is corrosive to aluminum.

- If material involved in fire**
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- If material not involved in fire**
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
- Personnel protection**
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Environmental considerations—land spill**
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water
- Environmental considerations—water spill**
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust pH to neutral (pH-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

FERRIC CHLORIDE SOLUTION (IRON CHLORIDE 4932343
(IRON MURIATE), OTHER THAN CRUDE, LIQUID)
CORROSIVE MATERIAL UN2582
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Ferric chloride solution is the water solution of the yellow orange crystalline solid having a faint hydrochloric acid odor. It is corrosive to metals and tissue.

- It weighs 12.6 pounds per gallon.
- If material involved in fire**
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
- If material not involved in fire**
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Neutralize spilled material with crushed limestone, soda ash, or lime
- Personnel protection**
Avoid breathing fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing
- Environmental considerations—land spill**
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Environmental considerations—water spill**
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
Adjust pH to neutral (pH-7)
Environmental considerations—air spill
Apply water spray or mist to knock down vapors

FERRIC CHLORIDE SOLUTION (IRON CHLORIDE, 4932342
CRUDE, LIQUID NOT LESS THAN 50% WATER)
CORROSIVE MATERIAL UN2582
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Ferric chloride solution is the water solution of the yellow orange crystalline solid having a faint hydrochloric acid odor. It is corrosive to metals and tissue.

- It weighs 12.6 pounds per gallon.
- If material involved in fire**
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
- If material not involved in fire**
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Neutralize spilled material with crushed limestone, soda ash, or lime
- Personnel protection**
Avoid breathing fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing
- Environmental considerations—land spill**
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Environmental considerations—water spill**
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
Adjust pH to neutral (pH-7)
- Environmental considerations—air spill**
Apply water spray or mist to knock down vapors

FERRIC FLUORIDE 4962626
ORM-E NA9120
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)

Ferric fluoride is a green crystalline solid. It is used in ceramics. It is soluble in water. It is non-combustible.

- If material involved in fire**
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- If material not involved in fire**
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
- Personnel protection**
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

MCD 000017170

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Add soda ash
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**FERRIC NITRATE
OXIDIZER**

**4918725
UN1466**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Ferric nitrate is a violet crystalline solid. It is used for dyeing and tanning, in chemical analysis, and in medicine. It is soluble in water. It is non-combustible but it will accelerate the burning of combustible materials. If large quantities are involved in the fire or the combustible material is finely divided an explosion may result. Prolonged exposure of the material to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material.

If material on fire or involved in fire

Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection

Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If fire becomes uncontrollable—evacuate for a radius of 2500 feet

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**FERRIC SULPHATE SOLUTION (FERRIC SULFATE)
ORM-E**

**4963827
NA9121**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Ferric sulphate solution is the yellow crystalline solid dissolved in water. It is used in water purification, as a disinfectant, in textile processing, and for many other uses. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Adjust ph to neutral (ph-7)

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**FERROUS AMMONIUM SULFATE
ORM-E**

**4963354
NA9122**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Ferrous ammonium sulfate is a light green crystalline solid. It is used in medicine, in chemical analysis, and in metallurgy. It is soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Allow to aerate
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**FERROUS AMMONIUM SULPHATE, FERTILIZER
GRADE (IRON AMMONIUM SULPHATE)
(FERROUS AMONIUM SULFATE)**

4963357

ORM-E

NA9122

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Ferrous ammonium sulphate, fertilizer grade is a light green crystalline solid. It is used as an ingredient to mixed fertilizers or as a soil additive by itself. It is soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Continued on next page

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire
fighting water

Environmental considerations—water spill

Allow to aerate
Neutralize with agricultural lime (slaked lime), crushed limestone,
or sodium bicarbonate
Adjust pH to neutral (pH-7)
Use mechanical dredges or lifts to remove immobilized masses of
pollutants and precipitates

**FERROUS ARSENATE, SOLID
POISON B****4923233
UN1608**

Ferrous arsenate, solid is a green powder. It is insoluble in water. It
is toxic by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involv-
ing this material
If contact with the material anticipated, wear full protective clothing

**FERROUS CHLORIDE, SOLID
ORM-A****4941131
NA1759**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Ferrous chloride is a greenish white crystalline solid. It is used in
sewage treatment, in dyeing of fabrics, and for many other uses. It is
soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with
copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire
fighting water

Environmental considerations—water spill

Adjust pH to neutral (pH-7)
Allow to aerate
Neutralize with agricultural lime (slaked lime), crushed limestone,
or sodium bicarbonate
Adjust pH to neutral (pH-7)
Use mechanical dredges or lifts to remove immobilized masses of
pollutants and precipitates

**FERROUS CHLORIDE, SOLUTION
CORROSIVE MATERIAL
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)****4932329
NA1760**

Ferrous chloride, solution is the greenish-white crystalline solid dis-
solved in water. It is used in dyeing, in medicine, and sewage treatment.
It is corrosive to metals and tissue.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or
foamed concrete
Absorb bulk liquid with fly ash, cement powder, sawdust, or com-
mercial sorbents

Neutralize with agricultural lime (slaked lime), crushed limestone,
or sodium bicarbonate

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone,
or sodium bicarbonate
Use mechanical dredges or lifts to remove immobilized masses of
pollutants and precipitates
Adjust pH to neutral (pH-7)

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

**FERROUS SULFATE
ORM-E****4963832
NA9125**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Ferrous sulfate is a greenish to yellow brown crystalline solid. It is
used used to make other iron compounds, in water and sewage treat-
ment, as a fertilizer, feed additive, and for many other uses. It is slightly
soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with
copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire
fighting water

Environmental considerations—water spill

- Adjust ph to neutral (ph-7)
- Allow to aerate
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Adjust ph to neutral (ph-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

FERROUS SULPHATE, LESS THAN 40% WATER 4963836
(FERROUS SULFATE)

ORM-E NA9125
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Ferrous sulphate, less than 40% water is a greenish to yellowish brown crystalline solid. It is used for sewage and water treatment, as a fertilizer, feed additive, and for many other uses. It is slightly soluble in water. It is non-combustible.

It weighs 15.0 pounds per gallon.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Adjust ph to neutral (ph-7)
- Allow to aerate
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Adjust ph to neutral (ph-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

FERROUS SULPHATE, NOT LESS THAN 40% WATER 4963841
(FERROUS SULFATE)

ORM-E NA9125
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Ferrous sulphate, not less than 40% water is either a greenish to yellow brown crystalline or a dark green to brown liquid. It is used for water or sewage treatment, as a fertilizer ingredient, and for other uses. It is non-combustible.

It weighs 15.0 pounds per gallon.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Adjust ph to neutral (ph-7)
- Allow to aerate
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Adjust ph to neutral (ph-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

FERTILIZER AMMONIATING SOLUTION (CONTAINING 4904250
FREE AMMONIA)

NONFLAMMABLE GAS, CORROSIVE UN1043

Fertilizer ammoniating solution is the solution of ammonium compounds charged with ammonia gas and having a absolute pressure exceeding 40 psi at 70 deg. F. in the container. It has the characteristic odor of ammonia. The solution may be corrosive. Although ammonia is lighter than air, the vapors initially tend to hug the ground.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use water spray to absorb vapors

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and gas tight goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Evacuation

- If material leaking (not on fire), downwind evacuation must be considered

FERTILIZER SOLUTION, CONSISTING OF WATER, 4935272
FREE AMMONIA AND SULPHUR, TOTAL
AMMONIA CONTENT NOT TO EXCEED 30
PERCENT BY WEIGHT (CORROSIVE LIQUID,
N.O.S.)

CORROSIVE MATERIAL UN1760

Fertilizer solution, consisting of water, free ammonia and sulphur, total ammonia content not to exceed 30 percent by weight is a colorless to yellow colored liquid having the odor characteristic of ammonia. It is corrosive to metals and tissue. its vapors are heavier than air.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Apply water from as far a distance as possible
- Use water spray to absorb vapors

Continued on next page

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

FERTILIZING COMPOUNDS, NEC DRY (OXIDIZING MATERIAL, N.O.S.) 4918920

OXIDIZER UN1479

Fertilizing compounds, nec, dry are various materials which have the property of accelerating the burning of combustible material. These materials may not burn by themselves. Prolonged exposure to fire or heat by these materials and/or their containers may result in an explosion. These materials may only be packaged in containers of 55-gallon capacity or smaller.

If material on fire or involved in fire

Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection

Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If fire becomes uncontrollable—evacuate for a radius of 2500 feet

FIBERS OR FABRIC, CONTAINING NOT MORE THAN 5% ANIMAL OR VEGETABLE OIL. 4917327

FLAMMABLE SOLID NA1373

Fibers or fabric, containing not more than 5% animal or vegetable oil are materials that have been contaminated, impregnated or coated with animal or vegetable oil. It is liable to spontaneous heating and ignition.

If material on fire or involved in fire

Flood with water

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

FIBERS, BURNT 4917325
FLAMMABLE SOLID NA1372

Burnt fiber is fiber that has been on fire and the burned parts have not been removed. The hazard is that once the fiber has been on fire the fire may persist for a long time in the interior of the bale or bag.

If material on fire or involved in fire

Flood with water

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

FILM (NITROCELLULOSE) (CELLULOSE FILM SCRAP OR WASTE) 4917383

FLAMMABLE SOLID NA1324

Film (nitrocellulose) is a photographic film made from nitrocellulose. It is easily ignited and burns with great rapidity. Older film may deteriorate and be liable to spontaneous heating and ignition. Toxic oxides of nitrogen are produced during combustion.

If material on fire or involved in fire

Flood with water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Personnel protection

Wear self-contained breathing apparatus when fighting fires involving this material

Approach fire with caution

FILM (NITROCELLULOSE) (MOVING PICTURE FILM SCRAP) 4917340

FLAMMABLE SOLID NA1324

Film (nitrocellulose) is a photographic film made of nitrocellulose. It is easily ignited and burns with great rapidity. Older film may deteriorate and be liable to spontaneous heating and ignition. Toxic oxides of nitrogen are produced during combustion.

If material on fire or involved in fire

Flood with water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Personnel protection

Wear self-contained breathing apparatus when fighting fires involving this material

Approach fire with caution

FILM (NITROCELLULOSE) (MOVING PICTURE FILM, EXPOSED, NEC) 4917337

FLAMMABLE SOLID NA1324

Film (nitrocellulose) is a photographic film made of nitrocellulose. It is easily ignited and burns with great rapidity. Older film may deteriorate and be liable to spontaneous heating and ignition. Toxic oxides of nitrogen are produced during combustion.

If material on fire or involved in fire

Flood with water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Personnel protection

Wear self-contained breathing apparatus when fighting fires involving this material

Approach fire with caution

FILM (NITROCELLULOSE) (PHOTOGRAPHIC FILM, NEC, UNEXPOSED) 4917382

FLAMMABLE SOLID NA1324

Film (nitrocellulose) is a photographic film made from nitrocellulose. It is easily ignited and burns with great rapidity. Older film may deteriorate and be liable to spontaneous heating and ignition. Toxic oxides of nitrogen are produced during combustion.

If material on fire or involved in fire

Flood with water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Wear self-contained breathing apparatus when fighting fires involving this material
Approach fire with caution

FIRE EXTINGUISHER 4904820
NONFLAMMABLE GAS UN1044

Fire extinguisher is a device containing a nonflammable gas under pressure. It has a mechanism to spray the contained gas or expel a liquid, through some type of nozzle.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Attempt to stop leak if without hazard
Personnel protection
Avoid breathing vapors
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

FIRE EXTINGUISHER CHARGES CONTAINING 4930219
SULFURIC ACID UN1774
CORROSIVE MATERIAL, ACIDIC

Fire extinguisher charges consist of two chemicals packed in the same outside container. One is sodium bicarbonate, white water soluble solid that is non hazardous. The other is sulfuric acid, in limited quantities, a colorless odorless liquid. Sulfuric acid is soluble in water with release of heat. It is corrosive to metals and tissue.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Build dikes to contain flow as necessary
Neutralize spilled material with crushed limestone, soda ash, or lime
Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

FIRE PROOFING COMPOUNDS, LIQUID, NEC 4936536
(CORROSIVE LIQUID, N.O.S.)
CORROSIVE MATERIAL UN1760

Fireproofing compounds, liquid, nec are various colored materials. They are corrosive to metals and/or tissue.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Apply water from as far a distance as possible

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

FIRECRACKERS OR TORPEDOES (COMMON 4903525
FIREWORKS)
CLASS C EXPLOSIVE

Firecrackers or torpedoes are tubular devices, made of paper with external dimensions not exceeding 1 1/2 inches in length and 1/4 inch in diameter. They are filled with a pyrotechnic composition not exceeding two grains in weight designed to produce an audible effect.
If material on fire or involved in fire
Flood with water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

FISH MEAL CONTAINING LESS THEN 6% OR MORE 4917328
THAN 12% WATER (FISH MEAL, GROUND,
PULVERIZED OR SCREENED)

FLAMMABLE SOLID NA1374
Fish meal that is too dry is liable to spontaneous heating and ignition. Fish meal that is too wet is liable to decay, spontaneous heating and ignition. It must be shipped in air tight metal containers.
If material on fire or involved in fire
Flood with water
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

FISH OIL RESIDUUM, DEHYDRATED (GARBAGE 4917460
TANKAGE (CONTAINING LESS THAN 8%
MOISTURE)

FLAMMABLE SOLID NA1325
Fish oil residuum, dehydrated is liable to spontaneous heating and ignition if not properly cooled after manufacture or is too dry.
If material on fire or involved in fire
Flood with water

MCD 000017175

FISH SCRAP CONTAINING LESS THAN 6% OR MORE THAN 12% WATER (FISH SCRAP, GROUND, PULVERIZED OR SCREENED) 4917329
FLAMMABLE SOLID NA1374
Fish scrap that is too dry is liable to spontaneous heating and ignition. Fish scrap that is too wet is liable to decay, spontaneous heating and ignition. It must be shipped in airtight metal containers.
If material on fire or involved in fire
Flood with water
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

FISH SCRAP CONTAINING LESS THAN 6% OR MORE THAN 12% WATER (FISH SCRAP, NEC, DRY NOT GROUND, PULVERIZED NOR SCREENED) 4917330
FLAMMABLE SOLID NA1374
Fish scrap that is too dry is liable to spontaneous heating and ignition. Fish scrap that is too wet is liable to decay, spontaneous heating and ignition. It must be shipped in airtight metal containers.
If material on fire or involved in fire
Flood with water
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

FISH SCRAP OR FISH MEAL CONTAINING LESS THAN 6% OR MORE THAN 12% WATER (FISH TANKAGE, NEC, DRY, NOT GROUND, PULVERIZED, OR SCREENED) 4917331
FLAMMABLE SOLID NA1374
Fish scrap or fish meal that is too dry is liable to spontaneous heating and ignition. Fish scrap or fish meal that is too wet is liable to decay, spontaneous heating and ignition. It must be shipped in airtight metal containers.
If material on fire or involved in fire
Flood with water
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

FISH SCRAP, NEC, GREEN (FISH SCRAP (CONTAINING LESS THAN 6% OR MORE THAN 12% MOISTURE)) 4917462
FLAMMABLE SOLID NA1374
Fish scrap, nec, green that is too dry is liable to spontaneous heating and ignition; or too wet is liable to decay, spontaneous heating and ignition.
If material on fire or involved in fire
Flood with water
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away

FLAME COLORING COMPOUNDS (OXIDIZING MATERIALS, N.O.S.) 4916905
OXIDIZER UN1479
Flame coloring compounds are various materials which have the property of accelerating the burning of combustible material. These materials may not burn by themselves. Prolonged exposure to fire or heat by these materials and/or their containers may result in an explosion. These materials may only be found in containers of 55-gallon capacity or smaller.
If material on fire or involved in fire
Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Personnel protection
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

FLAME RETARDANT COMPOUND, LIQUID 4936570
CORROSIVE MATERIAL NA1760
Flame retardant compound liquid is a variable colored material having the property of being corrosive to metals and/or tissue. It may or may not be water soluble.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical
If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

FLAMMABLE GAS, N.O.S. (See COMPRESSED GAS, N.O.S., FLAMMABLE GAS 4905710)

FLAMMABLE LIQUID, CORROSIVE, N.O.S. 4907829
FLAMMABLE LIQUID, CORROSIVE UN2924
Flammable liquid, corrosive, n.o.s. is the proper shipping name for those liquids having a closed cup flash point of less than 100 deg. F., being corrosive to steel and/or tissue, and not being specifically mentioned in the hazardous materials regulations. Try to ascertain the exact name of the material from the shipping papers.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use "alcohol" foam, carbon dioxide or dry chemical
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**FLAMMABLE LIQUID, N.O.S.
FLAMMABLE LIQUID****4910185
UN1993**

Flammable liquid, n.o.s. is the proper shipping name for those materials having a closed cup flash point of less than 100 deg. F. and not specifically mentioned in the hazardous materials regulations.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**FLAMMABLE LIQUID, POISONOUS, N.O.S.
FLAMMABLE LIQUID****4907422
UN1992**

Flammable liquid, poisonous, n.o.s. is the proper shipping name for those liquids having a closed cup flash point of less than 100 deg. F., being toxic by ingestion, inhalation, or skin absorption, and not specifically mentioned in the hazardous materials regulations. Try to ascertain the exact name of this material from the shipping papers.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

**FLAMMABLE SOLID, CORROSIVE, N.O.S.
FLAMMABLE SOLID****4916755
UN2925**

Flammable solid, corrosive, n.o.s. is the proper shipping name of any solid material other than one classed as an explosive which is liable under conditions incident to transportation to cause fires through friction, absorption of moisture, spontaneous chemical changes as a result of retained heat from the manufacturing or processing of the material, or which can be easily ignited by external sparks or flame and when so ignited burns vigorously and persistently. Also, the material is corrosive to metals and/or tissue. Try to ascertain the exact name of the material from the shipping papers.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of fire

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

**FLAMMABLE SOLID, N.O.S.
FLAMMABLE SOLID****4917332
UN1325**

Flammable solid, n.o.s. is the proper shipping name of any solid material other than one classed as an explosive, or specifically listed by name in the list of hazardous materials which is liable under conditions incident to transportation to cause fires through friction, absorption of moisture, spontaneous chemical changes as a result of retained heat from the manufacturing or processing of the solid, or which can be readily ignited by external sparks or flame and when so ignited burns vigorously and persistently. Try to ascertain the exact name of the material.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of fire

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Build dikes to contain flow as necessary

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**FLAMMABLE SOLID, POISONOUS, N.O.S.
FLAMMABLE SOLID, POISONOUS****4916615
UN2926**

Flammable solid, poisonous, n.o.s. is the proper shipping name of any solid material other than one classed as an explosive which is liable under conditions incident to transportation to cause fires through friction, absorption of moisture, spontaneous chemical changes as a result of retained heat from the manufacturing or processing of the material, or which can be easily ignited by external sparks or flame and when so ignited burns vigorously and persistently. Also, the material is toxic by ingestion, inhalation, or skin absorption. Try to ascertain the exact name of the material from the shipping papers.

Continued on next page

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of fire
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Build dikes to contain flow as necessary
Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

FLARES, HIGHWAY SAFETY, SOLIDIFIED FUEL, OTHER THAN EXPLOSIVES OR FIREWORKS. (FLAMMABLE SOLID, N.O.S.) 4917445

FLAMMABLE SOLID UN1325
 Flares, highway safety, solidified fuel are pasteboard or fiber tubes containing a solid fuel that burn with an intense red, green, or yellow flame. Once ignited they can burn under water.

If material on fire or involved in fire
 If fire is massive, back off, protect surroundings, and let burn
 For scattered burning fusees, smother in dirt
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
Personnel protection
 Avoid breathing fumes from burning material

FLEXIBLE LINEAR SHAPED CHARGE, METAL CLAD CLASS C EXPLOSIVE 4903320

Flexible linear shaped charge, metal clad consists of a core containing not more than 15 grains of high explosive composition per foot and not exceeding 26 feet in length or containing not more than 2 1/2 grains of high explosive composition per foot covered with metal. It may be covered with tapes, yarns, plastics or waterproofing compounds.

If material on fire or involved in fire
 Dangerously explosive
 Flood with water
 Apply water from as far a distance as possible
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
Personnel protection
 Approach fire with caution
 Avoid breathing dusts, and fumes from burning material
 Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 1500 feet

FLOOR COVERING UNDER LAYMENT COMPOUNDS, NEC (FLAMMABLE LIQUID, N.O.S.) 4910456

FLAMMABLE LIQUID UN1993
 Floor covering underlayment compounds, nec are various colored thick liquids. They have a flash point of less than 100 deg. F. They are generally heavier than water and insoluble in water. The vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

FLOOR COVERING UNDERLAYMENT COMPOUNDS, NEC (COMBUSTIBLE LIQUIDS, N.O.S.) 4915456

COMBUSTIBLE LIQUID NA1993
 Floor covering underlayment compounds, nec are various colored thick liquids. They have a flash point between 100 and 199 deg. F. They are generally heavier than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

FLOOR POLISH OR WAX (POLISH, WOOD, LIQUID) 4910271

FLAMMABLE LIQUID NA1142
 Floor polish or wax is a clear colorless to milky white or cream colored thick liquid. It has a flash point of less than 100 deg. F. It is generally heavier than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

MCD 000017178

**FLOOR POLISH OR WAX (POLISH, WOOD, LIQUID) 4915271
COMBUSTIBLE LIQUID NA1142**

Floor polish or wax is a clear colorless to milky white or cream colored thick liquid. It has a flash point between 100 and 199 deg. F. It is generally heavier than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**FLOUR BLEACHING COMPOUNDS, NEC (OXIDIZING 4918910
MATERIAL, N.O.S.) UN1479
OXIDIZER**

Flour bleaching compounds, nec are various materials which have the property of accelerating the burning of combustible material. These materials may not burn by themselves. Prolonged exposure to fire or heat by these materials and/or their containers may result in an explosion. These materials may be only packaged in containers of 55-gallon capacity or smaller.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 1500 feet

**FLUOBORIC ACID 4930222
CORROSIVE MATERIAL, ACIDIC UN1775**

Fluoboric acid is a colorless odorless liquid. It is soluble in water with release of heat. It is corrosive to metals and tissue.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind

- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

**FLUORIC ACID (See HYDROFLUORIC ACID
SOLUTION 4930022)**

**FLUORINE 4904030
NONFLAMMABLE GAS, OXIDIZING, POISONOUS, UN1045
CORROSIVE**

Fluorine is a pale yellow gas with a pungent odor. It is toxic by inhalation. Contact with skin in lower than lethal concentration causes burns. It reacts with water to form hydrofluoric acid and oxygen. It is corrosive to most common materials. It reacts with most combustible materials to the point that ignition often occurs. It must be shipped in cylinders, not equipped with a safety relief device and in quantities not exceeding 6 pounds of gas per cylinder. Under fire conditions the cylinders are subject to violent rupturing and rocketing.

If material involved in fire

- Do not extinguish fire unless flow can be stopped
- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Do not use water on material itself
- Use water spray to absorb vapors

If material not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors
- Do not use water on material itself

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If material leaking (not on fire), downwind evacuation must be considered

**FLUOROETHANE GASES, NONFLAMMABLE 4904538
(COMPRESSED GAS, N.O.S.) UN1956
NONFLAMMABLE GAS**

Fluoroethane gases are colorless odorless gases. They are noncombustible. They can cause asphyxiation by the displacement of air. It may only be shipped in cylinders.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Attempt to stop leak if without hazard

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment

FLUOROPHOSPHORIC ACID, ANHYDROUS (See MONOFLUOROPHOSPHORIC ACID, ANHYDROUS 4930240)
FLUOROSILICIC ACID (See HYDROFLUOROSILICIC ACID 4930226)

FLUOSULFONIC ACID (OR) FLUOROSULFONIC ACID 4930010
CORROSIVE MATERIAL, ACIDIC, POISONOUS UN1777

Fluosulfonic acid is an odorless fuming liquid. It is soluble in water and is decomposed by water to hydrofluoric acid and sulfuric acid with release of heat. It is corrosive to metals and to tissue. The fumes and very short contact with small quantities of the acid can cause severe painful burns.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

FOOT WARMER OR HOT BOTTLE CHARGES, 4915476
CHEMICAL (COMBUSTIBLE LIQUID, N.O.S.)
COMBUSTIBLE LIQUID NA1993

Foot warmer or hot bottle charges, chemical are materials containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of these materials is combustibility.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

FOOT WARMER OR HOT BOTTLE CHARGES, 4910476
CHEMICAL (FLAMMABLE LIQUID, N.O.S.)
FLAMMABLE LIQUID UN1993

Foot warmer or hot bottle charges, chemical are materials containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of these materials is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

FORMALDEHYDE (OR) FORMALIN SOLUTION (IN 4940341
CONTAINERS OF 110 GALLONS OR LESS)
(FORMALDEHYDE, LIQUID)

ORM-A UN1198
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Formaldehyde is the colorless solution of formaldehyde gas in water. It is used to make plastics, other chemicals and fertilizers, as a preservative, as a corrosion inhibitor, and for many other uses. It is combustible and has a flash point varying from 122 to 185 deg. F. The gas readily vaporizes from the solution and is flammable over a wide vapor-air concentration range. It is heavier than water and is soluble in water. Its vapors are heavier than air.

It weighs 9.4 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors or dusts
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
- Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Remove trapped material with suction hoses

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

**FORMALDEHYDE (OR) FORMALIN SOLUTION (IN
CONTAINERS OF 110 GALLONS OR LESS)
(FORMALDEHYDE, PASTE)**

4940342

**ORM-A UN1198
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)**

Formaldehyde is the colorless solution of formaldehyde gas in water. It is used to make plastics, other chemicals and fertilizers, as a preservative, as a corrosion inhibitor, and for many other uses. It is combustible and has a flash point varying from 122 to 185 deg. F. The gas readily vaporizes from the solution and is flammable over a wide vapor-air concentration range. It is heavier than water and is soluble in water. Its vapors are heavier than air.

It weighs 9.4 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors or dusts
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
- Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

**FORMALDEHYDE, LIQUID (FORMALDEHYDE OR
FORMALIN SOLUTION)
COMBUSTIBLE LIQUID UN1198
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)**

4913144

Formaldehyde liquid is the colorless solution of formaldehyde gas in water. It is used to make plastics, other chemicals, and fertilizers, as a preservative, as a corrosion inhibitor, and for many other uses. It has a flash point varying from 122 to 185 deg. F. The gas readily vaporizes from solution and is flammable over a wide vapor air concentration range. The liquid is heavier than water and soluble in water. Its vapors are heavier than air.

It weighs 9.4 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Add sodium bisulfite (nahso3)

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
- Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
- Add sodium bisulfite
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Combustion products include corrosive or toxic vapors

**FORMALDEHYDE, PASTE (FORMALDEHYDE OR
FORMALIN SOLUTION)**

4913145

**COMBUSTIBLE LIQUID UN1198
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)**

Formaldehyde, paste is the thick mixture of paraformaldehyde the polymer of formaldehyde, formaldehyde and water having an irritating odor. Formaldehyde, itself, is a gas which readily vaporizes from the paste and is flammable over a wide vapor air concentration range. The paste has a flash point range of 122 to 185 deg. F. It is heavier than water and soluble in water. Its vapors are heavier than air.

It weighs 9.4 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Continued on next page

MCD 000017181

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Add sodium bisulfite (nahso3)

Environmental considerations—water spill

Use natural barriers or oil spill control booms to limit spill motion

Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material

Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms

Add sodium bisulfite

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

Combustion products include corrosive or toxic vapors

FORMIC ACID**4931320****CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE****UN1779****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Formic acid is a colorless liquid with a pungent odor. It is combustible over a wide range of vapor air mixtures and has a flash point of 156 deg. F. It is soluble in water with release of heat. It is corrosive to metals and tissue.

It weighs 10.2 pounds per gallon.

If material on fire or involved in fire

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors

Keep upwind

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material

Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

Vapor knockdown water is corrosive or toxic and should be diked for containment

FORMIC ACID SOLUTION**4931431****CORROSIVE MATERIAL, ACIDIC****UN1779****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Formic acid solution is the liquid material dissolved in water. It has a pungent odor. It is corrosive to metals and tissue.

It weighs 10.2 pounds per gallon.

If material on fire or involved in fire

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors

Keep upwind

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

Vapor knockdown water is corrosive or toxic and should be diked for containment

FREIGHT FORWARDER TRAFFIC**4950130**

Consult the shipping papers for the exact contents of the car, container, or trailer.

FUEL OIL**4915113****COMBUSTIBLE LIQUID****NA1993**

Fuel oil is a straw yellow to dark colored liquid with a petroleum like odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may spread fire

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

FUEL OIL TREATING COMPOUNDS (CORROSIVE LIQUID, N.O.S.) 4936537

CORROSIVE MATERIAL UN1760

Fuel oil treating compounds are various colored liquids. They are corrosive to metals and tissue. They may burn though it may require some effort to ignite.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

FUEL OIL, DIESEL (See FUEL OIL 4915113)

FUEL OIL, NO. 1, 2, 4, OR 5 4915112
COMBUSTIBLE LIQUID NA1993

Fuel oil, no. 1, 2, 4, or 5 are straw yellow to dark colored liquids with a petroleum like odor. They have a flash point between 100 and 199 deg. F. They are lighter than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

FUEL, AVIATION, TURBINE ENGINE 4909215
FLAMMABLE LIQUID UN1863

Fuel, aviation, turbine engine is a clear colorless to variable colored liquid with a petroleum like odor. It has a flash point in the range of -10 deg. f to 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

FUEL, AVIATION, TURBINE, ENGINE 4915167
COMBUSTIBLE LIQUID UN1863

Fuel, aviation, turbine, engine is a clear colorless to variable colored liquid with a faint petroleum like odor. It has a flash point of between 100 and 199 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

FUMARIC ACID 4966352
ORM-E NA9126
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Fumaric acid is a colorless crystalline solid. It is used to make paints and plastics, in food processing and preservation, and for other uses. It is slightly soluble in water. It is combustible though it may take some effort to ignite.

Continued on next page

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Solid streams of water may be ineffective
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Avoid breathing vapors or dusts
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Adjust pH to neutral (pH-7)
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

FUMARYL CHLORIDE 4931740
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN1780

Fumaryl chloride is a straw colored fuming liquid with a pungent odor. It is combustible and has a flash point of 165 deg. F. Its fumes are irritating to the eyes and mucous membranes. It is decomposed by water to hydrochloric acid, a corrosive material, and water insoluble fumaric acid with release of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire
 Use dry chemical or carbon dioxide
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
 Use water spray to absorb vapors
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

FUNGICIDES, AGRICULTURAL, NEC, LIQUID 4915198
(COMBUSTIBLE LIQUID, N.O.S.)
COMBUSTIBLE LIQUID NA1993

Fungicides, agricultural, nec, liquid, are various colored liquids. They consist of either a mixture of liquid materials or a solid dissolved in some solvent. They are generally lighter than water and are soluble in water. Prolonged exposure to the vapors or contact with liquid may result in poisoning by inhalation or skin absorption. Their flash point is between 100 and 200 deg. F. Their vapors are heavier than air. In case of damage to or leakage from containers of this material, contact the pesticide safety team network. Telephone 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

FUNGICIDES, AGRICULTURAL, NEC, LIQUID 4910198
(FLAMMABLE LIQUID, N.O.S.)
FLAMMABLE LIQUID UN1993

Fungicides, agricultural, nec, liquid are various colored liquids. They consist of either a mixture of liquid materials or a solid dissolved in some solvent. They are generally lighter than water and are soluble in water. Prolonged exposure to the vapors or contact with the liquid may result in poisoning by inhalation or skin absorption. Their flash point is below 100 deg. F. Their vapors are heavier than air. In case of damage to or leakage from containers of this material, contact the pesticide safety team network. Telephone 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

MCD 000017184

FUNGICIDES, AGRICULTURAL, NEC, LIQUID 4921454
(POISONOUS LIQUID, N.O.S.)

POISON B NA2810

Fungicides, agricultural, nec, liquid, are various colored liquids. They consist of either a mixture of liquid materials or a solid dissolved in some solvent. They are generally lighter than water and are soluble in water. They are toxic by ingestion, skin absorption and inhalation. In case of damage to or leaking from containers of this material, contact the pesticide safety team network. Telephone 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

FUNGICIDES, AGRICULTURAL, NEC, OTHER THAN 4921456
LIQUID (POISONOUS SOLID, N.O.S.)

POISON B NA2811

Fungicides, agricultural, nec, other than liquid, are either a mixture of dry materials or a liquid adsorbed on some solid carrier. They are toxic by ingestion, inhalation (dust, etc) or skin absorption. In case of damage to or leaking from containers of this material, contact the pesticide safety team network. Telephone 800-424-9300.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

FURAN 4909175
FLAMMABLE LIQUID UN2389

Furan is a clear colorless liquid. It has a flash point of less than 32 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

FURFURAL 4913146
COMBUSTIBLE LIQUID UN1199

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Furfural is a clear colorless liquid turning reddish brown on exposure to light and air having a penetrating odor of almonds. It has a flash point of 140 deg. F. it is heavier than water and is soluble in water. Its vapors are heavier than air.

It weighs 9.7 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Add sodium bisulfite (nahso3)

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Combustion products include corrosive or toxic vapors

MCD 000017185

FURFURYL ALCOHOL (ALCOHOL, N.O.S.) **4913124**
CUMBUSTIBLE LIQUID **UN1987**
 Furfuryl alcohol is a clear colorless liquid turning brown to dark red on exposure to light. It has a flash point of 167 deg. F. It reacts vigorously with most acids forming a black solid. It is heavier than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

FUSE IGNITER **4903445**
CLASS C EXPLOSIVE
 Fuse igniters are small cylindrical pasteboard or metal tubes containing an igniting composition in one end with the other end open to permit it to be placed on safety fuse.

If material on fire or involved in fire
 Flood with water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Approach fire with caution
 Avoid breathing dusts, and fumes from burning material
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 1500 feet

FUSE LIGHTER **4903450**
CLASS C EXPLOSIVE
 Fuse lighters are small cylindrical pasteboard or metal tubes containing an igniting composition in one end with the other end open to permit it to be placed on safety fuse.

If material on fire or involved in fire
 Flood with water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Approach fire with caution
 Avoid breathing dusts, and fumes from burning material
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 1500 feet

FUSE, SAFETY **4903323**
CLASS C EXPLOSIVE.
 Safety fuse consists of a core of fine grained black powder encased in a fabric covering of yarn, tape, and a waterproofing compound. Under fire conditions it will only burn and not explode.

If material on fire or involved in fire
 Flood with water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Approach fire with caution
 Avoid breathing dusts, and fumes from burning material
 Wear self-contained breathing apparatus when fighting fires involving this material

FUSEE (RAILWAY AND HIGHWAY) **4917333**
FLAMMABLE SOLID **NA1325**
 Fusees (railway and highway) are pasteboard or fiber tubes containing a pyrotechnic composition that burns with an intense red, green or yellow flame. Once ignited the fusee may burn under water.

If material on fire or involved in fire
 If fire is massive, back off, protect surroundings, and let burn
 For scattered burning fusees, smother in dirt

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Avoid breathing fumes from burning material

FUSEE (TRUCK FLARES, STEEL, 24 GAUGE OR THICKER) **4917366**
FLAMMABLE SOLID **NA1325**
 Fusees (truck flares, steel, 24 gauge or thicker) are metal devices containing a pyrotechnic composition. These devices are easily ignited and burn with an intense flame.

If material on fire or involved in fire
 If fire is massive, back off, protect surroundings, and let burn
 For scattered burning fusees, smother in dirt

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Avoid breathing fumes from burning material

FUSEL OIL **4915169**
COMBUSTIBLE LIQUID **UN1201**
 Fusel oil is a clear colorless liquid with a mild odor. It has a flash point of 123 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to disperse vapors and dilute standing pools of liquid

MCD 000017186

UNUSED NUMBERS

mcd 17187

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

GALENA ORE, CRUDE (LEAD SULFIDE) 4966994
ORM-E NA2291
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Galena ore, crude is stone with grey crystalline solid. It is used as the source mineral for lead. It is insoluble in water.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
 Remove trapped material with suction hoses
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

GAMBIER EXTRACTS, LIQUID (COMBUSTIBLE LIQUID, N.O.S.) 4915436
COMBUSTIBLE LIQUID NA1993

Gambier extracts, liquid are materials containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of these materials is combustibility.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

GAMBIER EXTRACTS, LIQUID (FLAMMABLE LIQUID, N.O.S.) 4910436

FLAMMABLE LIQUID UN1993
 Gambier extracts, liquid are materials containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of these materials is flammability.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

GARBAGE TANKAGE (CONTAINING LESS THAN 8% MOISTURE) 4917346

FLAMMABLE SOLID NA1325
 Garbage tankage is dried waste food products. If it has not been properly cooled or is too dry, it is liable to spontaneous heating and ignition.

If material on fire or involved in fire
 Flood with water

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

GARBAGE TANKAGE (CONTAINING LESS THAN 8% WATER) 4917364

FLAMMABLE SOLID NA1325
 Garbage tankage is dried waste food products. If it has not been properly cooled or is too dry, it is liable to spontaneous heating and ignition.

If material on fire or involved in fire
 Flood with water

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

GAS DRIPS, HYDROCARBON 4915188
COMBUSTIBLE LIQUID UN1884

Gas drips, hydrocarbon are clear colorless to variable colored liquids. Their flash point is between 100 and 199 deg. F. They are lighter than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

**GAS DRIPS, HYDROCARBON
 FLAMMABLE LIQUID** **4910188
 UN1864**

Gas drips, hydrocarbon are clear colorless to variable colored liquids. Their flash point is below 100 deg. F. and is generally much lower. They are lighter than water and insoluble in water. Their vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

**GAS IDENTIFICATION SET
 POISON A** **4920510
 NA9035**

Gas identification set is a collection of small quantities of poisonous liquids and gases, poison a and possibly irritating materials and chlorine. It is used to familiarize people with the smell of the various materials. The outside container must be either a wooden box or a specially constructed flanged steel cylinder.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

GAS IDENTIFICATION SET **4925635
 NA9035**
IRRITATING MATERIAL

Gas identification set is a collection of small containers of irritating materials absorbed on an inert material. It is used to familiarize people with the smell of the various materials. The outside container must be either a wooden box or a specially constructed flanged steel cylinder.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

**GAS MIXTURE, NEC, COMPRESSED, OTHER THAN
 POISON (COMPRESSED GAS, N.O.S.)** **4904580
 UN1956**

NONFLAMMABLE GAS
 Gas mixtures, nec are two or more gases shipped in the same container under pressure. The mixture may consist of both nonflammable and flammable gases with the mixture having nonflammable properties. The mixture can separate after leaking with either the flammable or nonflammable gas settling in low areas. It may asphyxiate by the displacement of air. It may only be shipped in cylinders. If the cylinder is an aerosol container, it can rupture and rocket under fire conditions.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Do not use water on material itself
 Use water spray to absorb vapors

If material not involved in fire
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

**GAS ODORANTS, NOT COMPRESSED GAS
 (COMBUSTIBLE LIQUID, N.O.S.)** **4915474
 NA1993**

COMBUSTIBLE LIQUID
 Gas odorants, not compressed gas are materials containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of these materials is combustibility.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

GAS ODORANTS, NOT COMPRESSED GAS 4910474
(FLAMMABLE LIQUID, N.O.S.)

FLAMMABLE LIQUID UN1993
Gas odorants, not compressed gas are materials containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of these materials is flammability.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

GASOHOL 4907827
FLAMMABLE LIQUID NA1257
Gasohol is a blend of gasoline and ethyl alcohol having an odor more of alcohol than gasoline. It is used as a motor fuel. It has a flash point of less than 0 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

GASOLINE 4908178
FLAMMABLE LIQUID UN1203
Gasoline is a clear colorless to amber colored volatile liquid with a petroleum like odor. It has a flash point of less than 0 deg. F. It is lighter than water and insoluble in water. The vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

GASOLINE (GASOLINE NATURAL (CASING HEAD)) 4908176
FLAMMABLE LIQUID UN1203
Gasoline is a clear colorless to amber colored volatile liquid with a petroleum like odor. It has a flash point of less than 0 deg. F. It is lighter than water and insoluble in water. The vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

MCD 000017190

GASOLINE (GASOLINE, BLENDED) 4908177
FLAMMABLE LIQUID UN1203

Gasoline is a clear colorless to amber colored volatile liquid with a petroleum like odor. It has a flash point of less than 0 deg. F. it is lighter than water and insoluble in water. The vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

GASOLINE PRESERVATIVE, NEC, LIQUID 4915478
(COMBUSTIBLE LIQUID, N.O.S.)

COMBUSTIBLE LIQUID NA1993

Gasoline preservative nec, liquid is a material containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of this material is combustibility.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

GASOLINE PRESERVATIVE, NEC, LIQUID 4910478
(FLAMMABLE LIQUID, N.O.S.)

FLAMMABLE LIQUID UN1993

Gasoline preservative nec, liquid is a material containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of this material is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

GERANIOL-NEROL MIXTURE (COMBUSTIBLE LIQUID, 4913182
N.O.S.)

COMBUSTIBLE LIQUID NA1993

Geraniol-nerol mixture is a colorless to pale yellow liquid having a pleasant flowery odor. it is used in perfumery and as a flavoring. It has a flash point of 176 deg. F. it is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

GERMANE 4920120
POISON A UN2192

Germane is a colorless gas with a pungent odor. it is used in making electronics. It is flammable. The gas is heavier than air and a flame can flash back to the source of leak very easily. It is toxic by inhalation. It may only be shipped in cylinders which may have to be overpacked in wooden or metal containers. Prolonged exposure of the cylinders to fire or heat may result in the cylinders violent rupturing and rocketing.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If material leaking (not on fire), downwind evacuation must be considered

GLUE CATALYST, NEC (COMBUSTIBLE LIQUID, N.O.S.) 4915454

COMBUSTIBLE LIQUID NA1993

Glue catalyst, nec is a material containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of this material is combustibility.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

GLUE CATALYST, NEC (FLAMMABLE LIQUID, N.O.S.) 4910454

FLAMMABLE LIQUID UN1993

Glue catalyst, nec is a material containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of this material is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

GLYCERINE, CRUDE, (SPENT LYE), CONCENTRATED 4936541

(CORROSIVE LIQUID, N.O.S.)

CORROSIVE MATERIAL, BASIC UN1760

Glycerine, crude, (spent lye), concentrated is a colorless to brown colored liquid. It is soluble in water. It is combustible though it may require some effort to ignite. The residual sodium hydroxide (lye) is what cause this material to be corrosive to metals and/or tissue.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

GLYCOL ETHERS (COMBUSTIBLE LIQUID, N.O.S.) 4913194

COMBUSTIBLE LIQUID NA1993

Glycol ethers are clear colorless liquids, with odors varying from none to mildly pleasant. They are used as a solvent for paints and plastics, and as a reaction medium for chemical synthesis. They have flash points between 100 and 200 deg. F. They are lighter than water and are soluble in water. Their vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

GRENADE, EMPTY, PRIMED 4903245

CLASS C EXPLOSIVE

Grenade, empty, primed is a grenade shell devoid of any bursting charge but which has the primer installed.

If material on fire or involved in fire

- Flood with water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

Continued on next page

Personnel protection

- Approach fire with caution
- Avoid breathing dusts, and fumes from burning material
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 1500 feet

**GRENADE, HAND, EXPLOSIVE
CLASS A EXPLOSIVE**

4901250

Hand grenade is a small metal device filled with explosives with or without other material such as toxic gas or tear gas, smoke or incendiary charge and a burster. Under fire conditions they will explode, fragmenting in the process.

If material on fire or involved in fire

- Dangerously explosive
- Do not fight fires in a cargo of explosives
- Evacuate area and let burn

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 5000 feet

**GUANIDINE NITRATE
OXIDIZER, THERMALLY UNSTABLE**

**4918415
UN1467**

Guanidine nitrate is a white crystalline solid that is soluble in water. It takes some effort to ignite but once ignited it will burn with increasing vigor as the fire progresses. If contaminated with combustible materials it will accelerate their burning. Prolonged exposure of guanidine nitrate and/or its containers to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 2500 feet

**HAFNIUM METAL, DRY
FLAMMABLE SOLID**

**4916711
UN2545**

Hafnium metal, dry, is a greyish metallic colored powder. Dust from dry powder may be ignited by static electricity. The dry powder reacts with moisture to produce hydrogen, a flammable gas. The heat from this reaction may be sufficient to ignite the hydrogen. It does not appreciably react with large quantities of water.

If material on fire or involved in fire

- Use suitable dry powder
- Use dry chemical or carbon dioxide
- Use water only if flooding quantities are available

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**HAFNIUM, METAL, WET
FLAMMABLE SOLID**

**4916712
UN1326**

Hafnium metal, wet is a greyish metallic colored sludge. Dust from dry powder may be ignited by static electricity. The dry powder reacts with moisture to produce hydrogen, a flammable gas. The heat from this reaction may be sufficient to ignite the hydrogen. It does not appreciably react with large quantities of water.

If material on fire or involved in fire

- Use suitable dry powder
- Use dry chemical or carbon dioxide
- Use water only if flooding quantities are available

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**HAIR, WET
FLAMMABLE SOLID**

**4917435
NA1372**

Hair, wet is hair wet with water. It is liable to spontaneous heating and ignition.

If material on fire or involved in fire

- Flood with water

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

**HAND SIGNAL DEVICE
CLASS C EXPLOSIVE**

4903610-

Hand signal devices are a metal, cardboard or plastic tube containing a pyrotechnic composition which produces either a flare or smoke upon functioning.

If material on fire or involved in fire

- Flood with water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

Personnel protection

- Approach fire with caution
- Avoid breathing dusts, and fumes from burning material
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 1500 feet

HAZARDOUS SUBSTANCE, LIQUID (OR) SOLID, NO.S. 4960132
ORM-E NA9188
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
Hazardous substance, liquid (or) solid, n.o.s. Specifically named in the hazardous materials regulations that has been determined to be hazardous to the environment if released.
Consult the shipping papers for the exact contents of the car, trailer, or container.

HAZARDOUS WASTE, LIQUID (OR) SOLID, N.O.S. 4960131
ORM-E NA9189
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
Hazardous waste, liquid (or) solid, n.o.s. Specifically named in the hazardous materials regulations that is being shipped to an epa designated disposal facility.
Consult the shipping papers for the exact contents of the car, trailer, or container.

HEATER FOR REFRIGERATOR CAR, LIQUID FUEL 4910195
TYPE
FLAMMABLE LIQUID NA1993
Heater for refrigerator car, liquid fuel types are mechanical devices for heating refrigerator cars. They may only be shipped containing fuel if shipped in carload or truckload quantities. The hazard is flammability which will depend upon the specific fuel.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Personnel protection
Avoid breathing vapors
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

HELIUM 4904540
NONFLAMMABLE GAS UN1046
Helium is a colorless odorless gas. It is lighter than air and is noncombustible.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Attempt to stop leak if without hazard
Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

HELIUM—ARGON GAS MIXTURE (COMPRESSED 4904542
GAS, N.O.S.)
NONFLAMMABLE GAS UN1956
Helium—argon gas mixture is a colorless odorless gas. Both helium and argon are noncombustible. Helium is lighter than air and argon is heavier than air. It can cause asphyxiation by the displacement of air. It may only be shipped in cylinders.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Attempt to stop leak if without hazard
Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

HELIUM—OXYGEN MIXTURE 4904430
NONFLAMMABLE GAS NA1980
Helium-oxygen mixture is a colorless odorless gas. Both helium and oxygen are noncombustible; however, oxygen will accelerate the combustion of a fire. It may only be shipped in cylinders.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Keep sparks, flames, and other sources of ignition away
Attempt to stop leak if without hazard
Personnel protection
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution

HELIUM-BUTANE GAS MIXTURE (COMPRESSED GAS, 4904543
N.O.S.)
NONFLAMMABLE GAS UN1956
Helium-butane gas mixture is a colorless odorless gas. While helium is non-combustible and butane is flammable, the mixture is nonflammable. The mixture can separate with the butane settling into low areas. It may only be shipped in cylinders.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Attempt to stop leak if without hazard
Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

MCD 000017194

HELIUM-BUTANE GAS, MIXTURE (COMPRESSED GAS, N.O.S.) **4905840**
FLAMMABLE GAS **UN1954**
Helium butane gas mixture is a colorless gas with a faint odor of petroleum. It is easily ignited and may only be shipped in cylinders. Helium is lighter than air and noncombustible, butane is flammable and heavier than air. A flame may flash back to the source of leak very easily. Under fire conditions cylinders may violently rupture and rocket.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

HELIUM-CARBON DIOXIDE-NITROGEN MIXTURE (COMPRESSED GAS, N.O.S.) **4904547**
NONFLAMMABLE GAS **UN1956**
Helium-carbon dioxide-nitrogen is a colorless, odorless gas. Helium, carbon dioxide, and nitrogen are each noncombustible. It can asphyxiate by the displacement of air. It may only be shipped in cylinders.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Attempt to stop leak if without hazard

Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

HELIUM-ISOBUTANE GAS MIXTURE (COMPRESSED GAS, N.O.S.) **4905842**
FLAMMABLE GAS **UN1954**
Helium-isobutane gas mixture is a colorless gas with a faint petroleum like odor. It is easily ignited and may only be shipped in cylinders. Helium is lighter than air and noncombustible, isobutane is heavier than air and flammable. A flame may flash back to the source of leak very easily. Under fire conditions cylinders may violently rupture and rocket.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

HELIUM-ISOBUTANE GAS MIXTURE (COMPRESSED GAS, N.O.S.) **4904544**
NONFLAMMABLE GAS **UN1956**
Helium-isobutane gas mixture is a colorless odorless gas. While helium is noncombustible and isobutane is flammable. The mixture is non-flammable. The mixture can separate with the isobutane settling into low areas. It may only be shipped in cylinders.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Attempt to stop leak if without hazard

Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

HELIUM-NITROGEN MIXTURE (COMPRESSED GAS, N.O.S.) **4904545**
NONFLAMMABLE GAS **UN1956**
Helium-nitrogen mixture is colorless odorless gas. Both helium and nitrogen are noncombustible. It may only be shipped in cylinders.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Attempt to stop leak if without hazard

Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

HEPTACHLOR **4960630**
ORM-E **NA2761**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
Heptachlor is a white to light tan waxy looking solid. It is used as an insecticide. It is non-combustible. It is insoluble in water. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone- 800-424-9300.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

- Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

HEPTANE

FLAMMABLE LIQUID

4909190

UN1206

Heptane is a clear colorless liquid with a petroleum-like odor. It has a flash point of 25 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

HEXACHLOROCYCLOPENTADIENE

CORROSIVE MATERIAL, POISONOUS

4933015

UN2646

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Hexachlorocyclopentadiene a pale yellow liquid with a pungent odor. It is noncombustible and solidifies at 50 deg. F. It is insoluble in water. It is toxic by skin absorption and inhalation. It is corrosive to tissue. It weighs 14.3 pounds per gallon.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water spray to absorb vapors

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

HEXADECYL TRICHLOROSILANE

CORROSIVE MATERIAL, ACIDIC

4934250

UN1781

Hexadecyl trichlorosilane is a colorless to yellow liquid with a pungent odor. Material will burn though it may require some effort to ignite. It is decomposed by moisture or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

HEXADIENE

FLAMMABLE LIQUID

4908184

UN2458

Hexadiene is a clear, colorless liquid with a petroleum like odor. It has a flash point of less than 0 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

Continued on next page

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

HEXAETHYL TETRAPHOSPHATE MIXTURE, DRY (CONTAINING NOT MORE THAN 2% HEXAETHYL TETRAPHOSPHATE) 4921423

POISON B NA2783
 Hexaethyl tetraphosphate mixture, dry is a liquid absorbed on a dry carrier. Hexaethyl tetraphosphate itself is soluble in water and is difficult to burn. It is toxic by skin absorption and inhalation (dust, etc.). In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

HEXAETHYL TETRAPHOSPHATE MIXTURE, DRY (CONTAINING MORE THAN 2% HEXAETHYL TETRAPHOSPHATE) 4921431

POISON B NA2783
 Hexaethyl tetraphosphate mixture, dry is a liquid absorbed on a dry carrier. Hexaethyl tetraphosphate itself is soluble in water and is difficult to burn. It is toxic by skin absorption and inhalation (dust, etc.). In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

HEXAETHYL TETRAPHOSPHATE MIXTURE, LIQUID (CONTAINING MORE THAN 25% HEXAETHYL TETRAPHOSPHATE) 4921432

POISON B NA2783
 Hexaethyl tetraphosphate mixture, liquid is the yellow liquid dissolved in a solvent. The mixture is soluble in water. The combustibility of the mixture will depend on the solvent used. It is toxic by inhalation and by skin absorption. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

HEXAETHYL TETRAPHOSPHATE MIXTURE, LIQUID (CONTAINING NOT MORE THAN 25% HEXAETHYL TETRAPHOSPHATE) 4921441

POISON B NA2783
 Hexaethyl tetraphosphate mixture, liquid is the yellow liquid dissolved in a solvent. The mixture is soluble in water. The combustibility of the mixture will depend on the solvent used. It is toxic by inhalation and by skin absorption. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If material leaking (not on fire), downwind evacuation must be considered

HEXAETHYL TETRAPHOSPHATE, LIQUID 4921430
POISON B UN1611

Hexaethyl tetrphosphate, liquid is a yellow liquid. It is soluble in water and difficult to burn. It is toxic by skin absorption and inhalation. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If material leaking (not on fire), downwind evacuation must be considered

HEXAETHYL TETRAPHOSPHATE AND COMPRESSED 4920515
GAS MIXTURE POISON A UN1612

Hexaethyltetrphosphate and compressed gas mixture is a liquid material charged with a gas. Hexaethyltetrphosphate is a yellow liquid and is lethal by skin absorption and inhalation. The material may only be shipped in cylinders, and these must be over packed in either a wooden box or a fiberboard box. Prolonged exposure of the cylinders to fire or heat may result in the violent rupturing and rocketing of the cylinders. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If material leaking (not on fire), downwind evacuation must be considered

HEXAFLUOROPHOSPHORIC ACID 4930015
CORROSIVE MATERIAL, ACIDIC, POISONOUS UN1782

Hexafluorophosphoric acid is a colorless fuming liquid. It is soluble in water with release of heat. It is corrosive to metals and tissue.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

HEXAFLUOROPROPYLENE 4904546
NONFLAMMABLE GAS UN1858

Hexafluoropropylene is an odorless, colorless gas. It is noncombustible. It can asphyxiate by the displacement of air.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Attempt to stop leak if without hazard

Personnel protection
Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

HEXAFLUOROPROPYLENE OXIDE 4904548
NONFLAMMABLE GAS NA1956
 Hexafluoropropylene oxide is a colorless odorless gas. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. Its vapors are heavier than air.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not involved in fire
 Attempt to stop leak if without hazard

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment

HEXALDEHYDE 4909185
FLAMMABLE LIQUID UN1207
 Hexaldehyde is a clear colorless liquid with a pungent odor. It has a flash point of 90 deg. F. It is lighter than water and is insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXOCYCLONONANE, (TECHNICALLY PURE) 4919277
ORGANIC PEROXIDE UN2165
 3,3,6,6,9,9-hexamethyl-1,2,4,5-tetraoxocyclononane, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXOCYCLONONANE, (NOT MORE THAN 52% WITH INERT SOLID) 4919169
ORGANIC PEROXIDE UN2166
 3,3,6,6,9,9-hexamethyl-1,2,4,5-tetraoxocyclononane, (not more than 52% with inert solid) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXOCYCLONONANE, (NOT MORE THAN 52% IN SOLUTION) 4919168
ORGANIC PEROXIDE UN2167
 3,3,6,6,9,9-hexamethyl-1,2,4,5-tetraoxocyclononane, (not more than 52% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**HEXAMETHYLENE DIAMINE SOLUTION
CORROSIVE MATERIAL, BASIC**

**4935645
UN1783**

Hexamethylene diamine solution is a clear colorless liquid. It is used to make nylon. It will burn though it may require some effort to ignite. It is soluble in water. It is corrosive to metals and tissue. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**HEXAMETHYLENE DIAMINE, SOLID
CORROSIVE MATERIAL, BASIC**

**4935640
UN2280**

Hexamethylene diamine, solid is a colorless crystalline solid. It is soluble in water. It is corrosive to metals and tissue. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**HEXAMETHYLENE IMINE
CORROSIVE MATERIAL, BASIC, FLAMMABLE,
POISONOUS**

**4935650
UN2493**

Hexamethylene imine is a colorless liquid with an ammonia like odor. It is flammable and has a flash point of 65 deg. F. It is toxic by ingestion. It is soluble in water. It is corrosive to metals and tissue. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**HEXANE
FLAMMABLE LIQUID**

**4908183
UN1208**

Hexane is a clear colorless liquid with a petroleum like odor. It is used as a solvent, paint thinner, and chemical reaction medium. It has a flash point of -9 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Continued on next page

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

HEXANOIC ACID**4931434****CORROSIVE MATERIAL, ACIDIC****NA1760**

Hexanoic acid is a colorless to light yellow liquid with an odor of limburger cheese. It will burn though it may take some effort to ignite. It is slightly soluble in water. It is corrosive to metals and tissue.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

**HEXYL ALCOHOL, OTHER THAN PERFUMERY
GRADE (ALCOHOL, N.O.S.)****4913126****COMBUSTIBLE LIQUID****UN1987**

Hexyl alcohol is a clear colorless liquid. It has a flash point of 149 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

HEXYL TRICHLOROSILANE**4934255****CORROSIVE MATERIAL, ACIDIC****UN1784**

Hexyl trichlorosilane is a colorless liquid with a pungent odor. It is decomposed by moist air or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire

Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

HIGH EXPLOSIVE**4901502****CLASS A EXPLOSIVE**

High explosive is the proper shipping name for those solid materials having the property of detonating when initiated by a commercial number 8 electric blasting cap. It is a variable colored solid. It does not function by burning. Most high explosives will burn once ignited by a flame and many will burn quietly if the quantity is small or the material is thinly spread over a large area. If large quantities are involved in the fire, or if the material is confined, or is packaged for shipment, the material can explode en masse without warning.

If material on fire or involved in fire

Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 5000 feet

HIGH EXPLOSIVE (NITROCELLULOSE, DRY) 4901520
CLASS A EXPLOSIVE

Nitrocellulose, dry is a white fibrous to amorphous powder, or a compressed block or stick. It can be detonated with a commercial number 8 electric blasting cap. It will burn once ignited with a flame and will continue to burn vigorously if the quantity is small or the material is thinly spread over a large area. If large quantities are involved in the fire, or if the material is confined, or is packaged for shipment, the material can explode en masse without warning.

If material on fire or involved in fire

Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 5000 feet

HIGH EXPLOSIVE (NITROSTARCH, DRY) 4901530
CLASS A EXPLOSIVE

Nitrostarch, dry is a white solid. It can be detonated with a commercial number 8 electric blasting cap. It will burn once ignited with a flame and will continue to burn vigorously if the quantity is small or the material is thinly spread over a large area. If large quantities are involved in the fire, or if the material is confined, or is packaged for shipment, the material can explode en masse without warning.

If material on fire or involved in fire

Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 5000 feet

HIGH EXPLOSIVE (PICRIC ACID, DRY) 4901510
CLASS A EXPLOSIVE

Picric acid is a yellow crystalline solid. It can be detonated with a commercial number 8 electric blasting cap. It will burn once ignited by a flame and will continue to burn quietly if the quantity is small or the material is thinly spread over a large area. If large quantities are involved in the fire, or if the material is confined, or is packaged for shipment, the material can explode en masse without warning.

If material on fire or involved in fire

Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 5000 feet

HIGH EXPLOSIVE (TRINITROTOLUOL, DRY) 4901540
CLASS EXPLOSIVE

Trinitrotoluol, dry is a yellow crystalline solid. It can be detonated with a commercial number 8 electric blasting cap. It will burn once ignited by a flame and will continue to burn quietly if the quantity is small or the material is thinly spread over a large area. If large quantities are involved, or the material is confined, or is packaged for shipment, the material can explode en masse without warning.

If material on fire or involved in fire

Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 5000 feet

HIGH EXPLOSIVE, LIQUID 4901504
CLASS A EXPLOSIVE

High explosive, liquid is the proper shipping name for those liquid materials having the property of detonating when initiated by a number 8 electric blasting cap. They are various colored liquids and slurries. They do not function by burning. They are sensitive to shock or impact. Most high explosives, liquid will burn once ignited by a flame and many will burn quietly if the quantity is small or the material is thinly spread over a large area. If large quantities are involved in the fire, or if the material is confined, or is packaged for shipment, the material can explode en masse without warning.

If material on fire or involved in fire

Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

HYDRAZINE, ANHYDROUS 4906225
FLAMMABLE LIQUID, POISONOUS, CORROSIVE UN2029
THERMALLY UNSTABLE

Hydrazine, anhydrous is a colorless, fuming oily liquid with an ammonia like odor. It has a flash point of 99 deg. F. It can ignite spontaneously on contact with oxidizers, and may ignite spontaneously on contact with porous materials such as earth, wood, and cloth. It is toxic by inhalation and by skin absorption. It is corrosive to tissue. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

HYDRAZINE, AQUEOUS SOLUTION 4935030
CORROSIVE MATERIAL, BASIC, POISONOUS UN2030

Hydrazine, aqueous solution is a colorless liquid with an ammonia like odor. It is combustible though it may require some effort to ignite. Contact with oxidizing materials may result in spontaneous ignition. It is toxic by inhalation and by skin absorption. It is corrosive to tissue. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet

HYDRIODIC ACID 4930226
CORROSIVE MATERIAL UN1787

Hydriodic acid is a colorless to yellow liquid with a pungent odor. Its fumes are irritating to the eyes and mucous membranes. It is soluble in water with release of heat. It is corrosive to metals and to tissue.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

HYDROBROMIC ACID (MORE THAN 49% STRENGTH) 4930227
CORROSIVE MATERIAL, ACIDIC UN1788

Hydrobromic acid is a colorless to yellow liquid with a pungent odor. Its fumes are irritating to the eyes and mucous membranes. It is soluble in water with release of heat. It is corrosive to metals and tissue.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

HYDROBROMIC ACID, ANHYDROUS (See HYDROGEN BROMIDE 4904260)

HYDROBROMIC ACID, NOT MORE THAN 49% STRENGTH 4930232

CORROSIVE MATERIAL UN1788

Hydrobromic acid is a colorless to yellow liquid with a pungent odor. Its fumes are irritating to the eyes and mucous membranes. It is soluble in water with release of heat. It is corrosive to metals and tissue.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

HYDROCARBON GAS, LIQUEFIED 4905749

FLAMMABLE GAS UN1965

Hydrocarbon gas, liquefied is a colorless gas with a faint petroleum like odor shipped as a liquefied gas under its vapor pressure. For transportation it may be stenciled. Contact with the liquid can cause frostbite. It is easily ignited. Its vapor is heavier than air and a flame can flash back to source of leak very easily. The leak can be either a liquid or vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may violently rupture and rocket.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind

Wear protective gloves and goggles

- Do not handle broken packages without protective equipment
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
- If material leaking (not on fire), downwind evacuation must be considered

HYDROCARBON GAS, NONLIQUEFIED FLAMMABLE GAS

4905779 UN1964

Hydrocarbon gas, nonliquefied is a colorless gas with a faint petroleum like odor. It is easily ignited and may only be shipped in cylinders. A flame may flash back to the source of leak very easily. Under fire conditions the cylinders may violently rupture and rocket.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Keep upwind
- Wear self-contained breathing apparatus
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

HYDROCARBON GAS, NONLIQUEFIED (COAL GAS) 4905708

FLAMMABLE GAS UN1964

Coal gas is a colorless gas. It has a faint petroleum odor unless there are impurities to give it the characteristic odor of the impurity; commonly hydrogen sulfide, rotten eggs; or benzene, aromatic. It is easily ignited and may only be shipped in cylinders. A flame may flash back to the source of leak very easily. Under fire conditions the cylinders may violently rupture and rocket.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

MCD 000017204

HYDROCHLORIC ACID 4930228
CORROSIVE MATERIAL, ACIDIC UN1789
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Hydrochloric acid is a colorless to yellow liquid with a pungent odor. It is used for cleaning masonry and metals, manufacturing chemicals, in petroleum production, and for many other uses. Its fumes are irritating to the eyes and mucous membranes. It is soluble in water with release of heat. It is corrosive to metals and tissue.

It weighs 10.1 pounds per gallon.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors

Keep upwind

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material

Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

Vapor knockdown water is corrosive or toxic and should be diked for containment

HYDROCHLORIC ACID (MURIATIC ACID, SPENT) 4930231
CORROSIVE MATERIAL UN1789
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Muriatic acid, spent is a dark colored liquid with a pungent odor. Its fumes are irritating to the eyes and mucous membranes. It is soluble in water with release of heat. It is corrosive to metals and tissue.

It weighs 10.1 pounds per gallon.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors

Keep upwind

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material

Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

Vapor knockdown water is corrosive or toxic and should be diked for containment

HYDROCHLORIC ACID MIXTURE 4930229
CORROSIVE MATERIAL, ACIDIC NA1789
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Hydrochloric acid mixtures are colorless to yellow liquids. Its fumes are irritating to the eyes and mucous membranes. It is soluble in water with release of heat. It is corrosive to metals and tissue.

It weighs 10.1 pounds per gallon.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors

Keep upwind

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material

Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

Vapor knockdown water is corrosive or toxic and should be diked for containment

HYDROCHLORIC ACID SOLUTION, INHIBITED 4930230
CORROSIVE MATERIAL, ACIDIC NA1789
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Hydrochloric acid solution, inhibited is a colorless to yellow liquid. Its fumes are irritating to the eyes and mucous membranes. It is soluble in water with release of heat. It contains some material which cuts its rate of corrosivity to metals compared to the uninhibited acid. It is corrosive to metals and tissue.

It weighs 10.1 pounds per gallon.

MCD 000017205

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

HYDROCHLORIC ACID, ANHYDROUS (See HYDROGEN CHLORIDE 4904270)

**HYDROCYANIC ACID, LIQUEFIED 4920125
POISON A, FLAMMABLE NA1051
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)**

Hydrocyanic acid, liquefied is a colorless gas with a faint aromatic odor. It is shipped as a liquefied gas under its vapor pressure and it must be stabilized to avoid polymerization. It is easily ignited. The vapor is just lighter than air but a flame can travel back to the source of leak very easily. It can polymerize from contact with alkali. Lethal amounts may be absorbed through the skin, as well as by inhalation. It may be shipped in cylinders or tank cars. Prolonged exposure to fire or heat may cause the cylinder or tank car to violently rupture and rocket. It weighs 5.7 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
- If material leaking (not on fire) evacuate for a radius of 2500 feet

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

**HYDROCYANIC ACID, SOLUTION 4920130
POISON A, FLAMMABLE UN1613
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)**

Hydrocyanic acid, solution is hydrocyanic acid, a gas dissolved in water. It is a clear colorless liquid with a faint aromatic odor. It is flammable though the lower concentrations may require some effort to ignite. The vapor is lighter than air, but a flame can flash back to the source of the leak very easily. Lethal amounts may be absorbed through the skin as well as by inhalation.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
- If material leaking (not on fire) evacuate for a radius of 2500 feet

Continued on next page

MCD 000017206

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Vapor knockdown water is corrosive or toxic and should be diked for containment

HYDROCYANIC ACID, SOLUTION, LESS THAN 5% 4921417
HYDROCYANIC ACID
POISON B UN1613
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)

Hydrocyanic acid solution is water containing up to 5% dissolved hydrocyanic acid with the faint odor of almonds. It is toxic by inhalation and skin absorption.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Vapor knockdown water is corrosive or toxic and should be diked for containment

HYDROFLUORIC ACID SOLUTION 4930022
CORROSIVE MATERIAL, ACIDIC, POISONOUS UN1790
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
 Hydrofluoric acid solution is a colorless fuming liquid with a pungent odor. It is soluble in water with release of heat. It is corrosive to metals and tissue. The fumes and very short contact with small quantities of the liquid can cause severe painful burns.
 It weighs 9.6 pounds per gallon.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
 Add soda ash
 Adjust ph to neutral (ph-7)
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Vapor knockdown water is corrosive or toxic and should be diked for containment

HYDROFLUORIC ACID, ANHYDROUS (OR) 4930024
HYDROGEN FLUORIDE
CORROSIVE MATERIAL, ACIDIC, POISONOUS UN1052
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Hydrofluoric acid, anhydrous is a colorless fuming liquid boiling at 67 deg. F. It is used as a catalyst and raw material in chemical manufacture. It is shipped as a liquid or liquefied gas under its vapor pressure. It is soluble in water with release of heat. It is corrosive to metals and tissue. The fumes and very short contact with small quantities of the liquid can cause severe painful burns.

It weighs 8.2 pounds per gallon.
If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If material leaking (not on fire) evacuate for a radius of 2500 feet

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Add soda ash
- Adjust pH to neutral (pH-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

**HYDROFLUORIC AND SULFURIC ACID MIXTURES 4930020
CORROSIVE MATERIAL, ACIDIC, POISONOUS UN1786
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)**

Hydrofluoric and sulfuric acid, mixture is a clear colorless liquid with a pungent odor. It is soluble in water with release of heat. It is corrosive to metals and tissue. The fumes and very short contact with small quantities of the acid can cause severe, painful burns.

It weighs 15.3 pounds per gallon.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

**HYDROFLUOSILICIC, ACID 4930026
CORROSIVE MATERIAL, ACIDIC, POISONOUS NA1778**

Hydrofluosilicic acid is a colorless fuming liquid with a penetrating pungent odor. It is used in water fluoridation, in hardening cement and ceramics, as a wood preservative, and for many other uses. It is soluble in water with release of heat. It is corrosive to metals and tissue. The fumes and very short contact with small quantities of the liquid can cause severe painful burns.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

**HYDROGEN 4905746
FLAMMABLE GAS UN1049**

Hydrogen is a colorless, odorless gas. It is easily ignited. It is lighter than air, but a flame can flash back to the source of the leak very easily. It is flammable over a wide range of vapor air concentrations. It may be shipped in cylinders and special tank cars. Under fire conditions the cylinders may violently rupture and rocket.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

HYDROGEN BROMIDE 4904260
NONFLAMMABLE GAS, CORROSIVE UN1048

Hydrogen bromide is a colorless gas with a pungent irritating odor. It is used to make other chemicals and as a catalyst in the manufacture of chemicals. The gas is corrosive. It dissolves in water to form hydrobromic acid, a corrosive material. The vapor is heavier than air. It may only be shipped in cylinders.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use water spray to absorb vapors

If material not involved in fire

Keep material out of water sources and sewers

Attempt to stop leak if without hazard

Use water spray to knock-down vapors

Neutralize spilled material with crushed limestone, soda ash, or lime

Do not use water on material itself

Personnel protection

Avoid breathing vapors

Keep upwind

Wear self-contained breathing apparatus

Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

HYDROGEN CHLORIDE 4904270
NONFLAMMABLE GAS, CORROSIVE UN1050
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Hydrogen chloride is a colorless gas with a pungent odor. The gas is corrosive to metals and tissue and irritating to the eyes and respiratory system. It dissolves in water to form hydrochloric acid, a corrosive material. The vapor is heavier than air. It weighs 9.9 pounds per gallon.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use water spray to absorb vapors

If material not involved in fire

Keep material out of water sources and sewers

Attempt to stop leak if without hazard

Use water spray to knock-down vapors

Neutralize spilled material with crushed limestone, soda ash, or lime

Do not use water on material itself

Personnel protection

Avoid breathing vapors

Keep upwind

Wear self-contained breathing apparatus

Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material

Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

Vapor knockdown water is corrosive or toxic and should be diked for containment

HYDROGEN IODIDE SOLUTION (See HYDRIODIC ACID 4930226)

HYDROGEN PEROXIDE SOLUTION (OVER 52% PEROXIDE) 4918335

OXIDIZER, CORROSIVE, THERMALLY UNSTABLE UN2015

Hydrogen peroxide solution is a colorless liquid dissolved in water. It is used to bleach textiles and wood pulp, in chemical manufacturing and food processing, and in water purification. Its vapors are irritating to the eyes and mucous membranes. The material can violently decompose on contact with most common metals and their compounds. Contact with combustible material can result in spontaneous ignition. It is corrosive to tissue. Under exposure to fire or heat containers of the material can violently rupture due to decomposition of the material.

If material involved in fire

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors

Keep upwind

Wear respiratory protection if material is misting

Wear boots, protective gloves, and goggles

Avoid bodily contact with the material

If contact with the material anticipated, wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet

HYDROGEN PEROXIDE SOLUTION (40% TO 52% PEROXIDE) 4918776

OXIDIZER, CORROSIVE UN2014

Hydrogen peroxide solution is the colorless liquid dissolved in water. Its vapors are irritating to the eyes and mucous membranes. It is corrosive to tissue. The material can violently decompose on metals and their compounds. Contact with combustible material can result in spontaneous ignition. Under exposure to fire or heat containers of the material can violently rupture due to the decomposition of the material.

If material involved in fire

Use water in flooding quantities as fog

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Personnel protection

Avoid breathing vapors
Keep upwind
Wear respiratory protection if material is misting
Wear boots, protective gloves, and goggles
Avoid bodily contact with the material
If contact with the material anticipated, wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Approach fire with caution

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

HYDROGEN SULFATE (See SULFURIC ACID 4930040)**HYDROGEN PEROXIDE SOLUTION (8% TO 40% PEROXIDE)****4918775****OXIDIZER, CORROSIVE****UN2014**

Hydrogen peroxide solution is the colorless liquid dissolved in water. Its vapors are irritating to the eyes and mucous membranes. The material, especially the higher concentrations, can violently decompose in contact with most common metals and their compounds. Contact with combustible materials can result in spontaneous ignition. Under prolonged exposure to fire or heat containers of the material may violently rupture due to decomposition of the material.

If material involved in fire

Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Avoid breathing vapors
Keep upwind
Wear respiratory protection if material is misting
Wear boots, protective gloves, and goggles
Avoid bodily contact with the material
If contact with the material anticipated, wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

HYDROGEN SELENIDE**4905415****FLAMMABLE GAS, POISONOUS****UN2202**

Hydrogen selenide is a colorless gas with an offensive odor. It is soluble in water. It is irritating to the eyes and mucous membranes. It is heavier than air. It may only be shipped in cylinders.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

HYDROGEN SULFIDE**4905410****FLAMMABLE GAS, POISONOUS****UN1053****ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)**

Hydrogen sulfide is a colorless gas having the odor of rotten eggs. It is shipped as a liquefied gas under its own vapor pressure. One's sense of smell becomes rapidly fatigued in atmospheres containing hydrogen sulfide and hence cannot be counted on to warn of the continued presence of the gas. Contact with the liquid can cause frostbite. The gas is heavier than air and a flame can flash back to the source of leak very easily. Under fire conditions cylinders and tank cars may violently rupture and rocket. It is soluble in water.

It weighs 8.3 pounds per gallon.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Approach fire with caution

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire) evacuate for a radius of 2500 feet

Environmental considerations—land spill

Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash or cement powder
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—air spill

Apply water spray or mist to knock down vapors
Vapor knockdown water is corrosive or toxic and should be diked for containment

MCD 000017210

HYDROGEN, LIQUEFIED **4905745**
FLAMMABLE GAS **UN1966**

Hydrogen, liquefied is hydrogen gas which has been compressed and condensed as a liquid at very low temperatures, boiling point -442 deg. F. It is a colorless liquid and may be shipped only in special very heavily insulated cylinders and tank cars. Contact with the liquid will cause frostbite. Hydrogen gas at normal temperatures is lighter than air but until vapors from the liquid warms up it will be heavier than air. It is very easily ignited and a flame will flash back to the source of the leak very easily. The leak could either be a liquid or vapor leak. -the tank car or cylinder is required to vent the vapor as it is normally given off). Under fire conditions the tank car or cylinder may violently rupture and rocket.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Do not use water on material itself

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors
- Do not use water on material itself

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

HYDROXY ALDEHYDE WASTES (FLAMMABLE **4910488**
LIQUID, N.O.S.)

FLAMMABLE LIQUID **UN1993**

Hydroxy aldehyde wastes is a material containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of this material is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

HYDROSILICOFLUORIC ACID (See HYDROFLUOROSILICIC ACID
4930026)

HYDROXY ALDEHYDE WASTES (COMBUSTIBLE **4915488**
LIQUID, N.O.S.)

COMBUSTIBLE LIQUID **NA1993**

Hydroxy aldehyde wastes is a material containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of this material is combustibility.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind

HYDROXYETHYLACRYLATE (CORROSIVE **4935675**
LIQUID, N.O.S.)

CORROSIVE MATERIAL **UN1760**

Hydroxyethylacrylate is a clear colorless liquid. It is used to make plastics. It is corrosive to tissue. It is also combustible and has a flash point of 120 deg. F. If the material is subject to heat or becomes contaminated, it is liable to polymerize with release of heat. If the polymerization takes place inside a container, the container is subject to violent rupture. It is lighter than water and is slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

MCD 000017241

**HYDROXYPROPYL ACRYLATE (CORROSIVE LIQUID, 4935510
N.O.S.)
CORROSIVE MATERIAL, POISONOUS UN1760
POLYMERIZABLE**

Hydroxypropyl acrylate is a clear colorless liquid. It is used to make plastics. It is toxic by inhalation and skin absorption, and is corrosive to tissue. It is also combustible and has a flash point of 136 deg. F. If the material is subject to heat or becomes contaminated, it is liable to polymerize with release of heat. If the polymerization takes place inside a container, the container is subject to violent rupture. It is lighter than water and is slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- If contact with the material anticipated, wear full protective clothing

**HYPOCHLORITE SOLUTION (CONTAINING MORE 4936335
THAN 7% AVAILABLE CHLORINE BY WEIGHT)
CORROSIVE MATERIAL UN1791
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)**

Hypochlorite solutions are colorless to light yellow liquids having a chlorine like odor. They consist of a hypochlorite compound dissolved in water. They are corrosive to metals and tissue.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

**HYPOCHLORITE SOLUTION CONTAINING NOT MORE 4944145
THAN 7% AVAILABLE CHLORINE (BY WEIGHT)**

**ORM-A NA1791
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)**

Hypochlorite solution containing not more than 7% available chlorine (by weight) is the white crystalline solid dissolved in water having a faint odor of chlorine. It is used as a bleach for textiles and paper pulp, for water purification, to make other chemicals, and for many other uses. It is corrosive to aluminum.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder
- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors

**IGNITER 4903465
CLASS C EXPLOSIVE**

Igniter consists of a fiberboard, plastic, paper, or metal tube containing a small quantity of igniting compound which is ignited by the action of a primer, pull wire or scratch composition.

If material on fire or involved in fire

- Flood with water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

Personnel protection

- Approach fire with caution
- Avoid breathing dusts, and fumes from burning material
- Wear self-contained breathing apparatus when fighting fires involving this material

IGNITER CORD 4903455
CLASS C EXPLOSIVE
Igniter cord consists of textile yarns and/or a wire uniformly covered with a combustible chemical mixture, with or without additional textile or wire counterings waterproofing or finishing coatings which, when ignited burns externally at various rates according to design.
If material on fire or involved in fire
Flood with water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material

IGNITER FUSE-METAL CLAD 4903460
CLASS C EXPLOSIVE
Igniter fuse-metal clad is an explosive igniter composition encased in a metal tube.
If material on fire or involved in fire
Flood with water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Approach fire with caution
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

IGNITER, JET THRUST (JATO) 4901360
CLASS A EXPLOSIVE
Igniter, jet thrust (jato) is a device consisting of an electrically or remotely controlled ignition element and a charge of deflagrating type explosive. They are used to ignite the propelling charge of jet thrust units.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

IGNITER, JET THRUST (JATO) 4902540
CLASS B EXPLOSIVE
Igniter, jet thrust (jato) are devices consisting of an electrically or remotely controlled ignition element and a charge of deflagrating type explosive. They are used to ignite the propelling charge of jet thrust units.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

IGNITER, ROCKET MOTOR 4902550
CLASS B EXPLOSIVE
Igniters, rocket motor are devices consisting of electrically or remotely controlled ignition elements and a deflagrating type of explosive. They are used to ignite the propulsion charge of rocket motors.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

IGNITER, ROCKET MOTOR 4901362
CLASS A EXPLOSIVE
Igniter, rocket motor is a device consisting of an electrically or remotely controlled ignition element and a deflagrating type of explosive. They are used to ignite the propelling charge of rocket motors.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

IMINOBISPROPYLAMINE 4935658 •
CORROSIVE MATERIAL, BASIC, COMBUSTIBLE UN2269
Iminobispropylamine is a colorless liquid, with an ammonia-like odor. It is combustible and has a flash point of 175 deg. F. It is soluble in water. It is corrosive to metals and tissue. Toxic oxides of nitrogen are produced during combustion of this material.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

MCD 000017213

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

INITIATING EXPLOSIVE (DIAZODINITROPHENOL) 4901430
CLASS A EXPLOSIVE

Diazodinitrophenol is a yellow crystalline solid that darkens on exposure to sunlight. It must be shipped wet with at least 40% water or water and denatured alcohol mixture. If it should dry out it can explode due to shock, heat, flame or friction. Upon prolonged exposure to fire or heat containers of the wet material will explode.

If material on fire or involved in fire

- Dangerously explosive
- Do not fight fires in a cargo of explosives
- Evacuate area and let burn

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep spilled material wet
- Wet spilled material before picking it up
- Do not attempt to sweep up dry material

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 5000 feet

INITIATING EXPLOSIVE (FULMINATE OF MERCURY, WET) 4901420

CLASS A EXPLOSIVE

Fulminate of mercury, wet is shipped as a slurry or wet mass of white crystals. It must be shipped wet with at least 25% water or water-ethyl alcohol mixture. If it should dry out, it can explode due to shock, heat, flame, or friction. Upon prolonged exposure to fire or heat containers of the wet material will explode.

If material on fire or involved in fire

- Dangerously explosive
- Do not fight fires in a cargo of explosives
- Evacuate area and let burn

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep spilled material wet
- Wet spilled material before picking it up
- Do not attempt to sweep up dry material

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 5000 feet

INITIATING EXPLOSIVE (GUANYL NITROSAMINO GUANYLIDENE HYDRAZINE)

4901435

CLASS A EXPLOSIVE

Guanyl nitrosamino guanylidene hydrazine is a colorless to pale yellow fluffy crystalline solid. It must be shipped wet with at least 30% water or water and denatured ethyl alcohol mixture. Dry it will detonate due to shock, heat, flame, or friction. Containers of the wet material can explode on prolonged exposure to fire or heat.

If material on fire or involved in fire

- Dangerously explosive
- Do not fight fires in a cargo of explosives
- Evacuate area and let burn

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep spilled material wet
- Wet spilled material before picking it up
- Do not attempt to sweep up dry material

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 5000 feet

INITIATING EXPLOSIVE (LEAD AZIDE, DEXTRINATED TYPE ONLY) 4901440

CLASS A EXPLOSIVE

Lead azide is shipped as a wet slurry or mass of colorless crystals. It must be shipped wet with at least 20% water or water and denatured ethyl alcohol mixture. If it should dry out, it may explode or detonate due to shock, heat, flame or friction. Under prolonged exposure to fire or heat containers of the wet material will explode.

If material on fire or involved in fire

- Dangerously explosive
- Do not fight fires in a cargo of explosives
- Evacuate area and let burn

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep spilled material wet
- Wet spilled material before picking it up
- Do not attempt to sweep up dry material

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 5000 feet

INITIATING EXPLOSIVE (LEAD MONONITRORESORCINATE)

4901445

CLASS A EXPLOSIVE

Lead mononitroresorcinate is shipped as a slurry or wet mass of reddish-brown crystals. It must be shipped wet with at least 40% water or water and denatured alcohol mixture. If it should dry out, it can explode due to shock, heat, flame, or friction. Upon prolonged exposure to fire or heat containers of the wet material will explode.

Continued on next page

If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

**INITIATING EXPLOSIVE (LEAD STYPHNATE)(LEAD 4901450
TRINITRORESORCINATE)
CLASS A EXPLOSIVE**
Lead styphnate is shipped as slurry or wet mass of orange-yellow crystals. It must be shipped wet with at least 20% water or water and denatured ethyl alcohol mixture. If it should dry out, it can explode due to shock, heat, flame or friction. Upon prolonged exposure to fire or heat containers of the wet material will explode.

If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

**INITIATING EXPLOSIVE (NITROSOGUANIDINE) 4901460
CLASS A EXPLOSIVE**
Nitrosoguanidine is shipped as a slurry or wet mass of pale yellow crystals. It must be shipped wet with at least 10% water. If it should dry out it can explode due to shock, heat, flame, or friction. Upon prolonged exposure to fire or heat containers of the wet material will explode.

If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

**INITIATING EXPLOSIVE (PENTAERYTHRITE 4901465
TETRANITRATE)
CLASS A EXPLOSIVE**
Pentaerythrite tetranitrate is shipped as a slurry or wet mass of white crystals. It must be shipped wet with at least 40% water or water and denatured alcohol mixture. If it should dry out, it can explode due to shock, heat, flame or friction. Upon prolonged exposure to fire or heat containers of the wet material will explode.

If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

**INITIATING EXPLOSIVE (TETRAZENE) (GUANYL 4901470
NITROSOAMINO GUANYL TETRAZENE)
CLASS A EXPLOSIVE**
Tetrazene is shipped as a slurry or wet mass of light yellow fluffy solid. It must be shipped wet with at least 30% water or water and denatured alcohol mixture. If it should dry out it can explode due to shock heat, flame, or friction. Upon prolonged exposure to fire or heat containers of the wet material will explode.

If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

INITIATING EXPLOSIVES (NITRO MANNITE) 4901455
CLASS A EXPLOSIVE

Nitro mannite is shipped as a slurry or wet mass of colorless crystals. It must be shipped wet with at least 40% water or water and denatured alcohol mixture. If it should dry out, it can explode due to shock, heat, flame, or friction. Upon prolonged exposure to fire or heat containers of the wet material will explode.

If material on fire or involved in fire

Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 5000 feet

INK (INK MATERIALS, NEC) 4915206
COMBUSTIBLE LIQUID NA1993

Ink materials, nec may contain a flammable solvent. Its flash point is between 100 and 199 deg. F. The hazard is combustibility.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

INK (INK, PRINTING, NEC) 4910205
FLAMMABLE LIQUID UN1210

Ink, printing, nec is various colored liquids or fluid pastes. It has a flash point of less than 100 deg. F. It is generally lighter than water and insoluble in water.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

INK MATERIALS, NEC (FLAMMABLE LIQUID, N.O.S.) 4910206
FLAMMABLE LIQUID UN1993

Ink materials, nec may contain a flammable solvent. Its flash point is less than 100 deg. F. The hazard is flammability.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

INK, PRINTING, NEC (INK) 4915205
COMBUSTIBLE LIQUID UN2867

Ink, printing, nec is various colored liquids, fluids, or pastes. It has a flash point between 100 and 199 deg. F. It is generally lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

INSECTICIDE ADHESIVES, LIQUID (ADHESIVE, N.O.S.) 4915502
COMBUSTIBLE LIQUID NA1133

Insecticide adhesives, liquid are the solutions of various gums and resins in various solvents. The liquids are generally quite thick and range from a clear colorless to a black "tar". The flash point depends on the solvent used, but it will be between 100 and 199 deg. F. The hazard of this material is combustibility.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

INSECTICIDE ADHESIVES, LIQUID (ADHESIVES, N.O.S.) 4910502

FLAMMABLE LIQUID NA1133

Insecticide adhesives, liquid are the solutions of various gums and resins in various solvents. The liquids are generally quite thick and range from a clear colorless to a black "tar". The flash point depends on the solvent used. But it will be below 100 deg. F. The hazard of this material is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

INSECTICIDE ADHESIVES, SPREADERS OR STICKERS, LIQUID (CORROSIVE LIQUID, N.O.S.) 4936594

CORROSIVE MATERIAL UN1760

Insecticide adhesives, spreaders or stickers, liquid are various colored liquids having the property of being corrosive to metals and/or tissue. It may be combustible though requiring some effort to ignite. It may or may not be water soluble.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

INSECTICIDE, DRY, N.O.S. (AGRICULTURAL INSECTICIDES OR FUNGICIDES, NEC, OTHER THAN LIQUID) 4921435

POISON B NA2588

Insecticide, dry is a material which have the property of being toxic by ingestion, inhalation or skin absorption. Contact the pesticide safety team network. Telephone: 800-424-9300

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

INSECTICIDE, DRY, N.O.S. (INSECTICIDES, INSECT OR ANIMAL REPELLENTS OR VERMIN EXTERMINATORS, NEC, OTHER THAN AGRICULTURAL) 4921434

POISON B NA2588

Insecticide, dry, n.o.s. is a material which have the property of being toxic by ingestion, inhalation or skin absorption.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

INSECTICIDE, LIQUEFIED GAS 4904830
NONFLAMMABLE GAS NA1968

Insecticide, liquefied gas are nonflammable formulations using a liquefied nonflammable gas as a propellant to disperse the material. While the material doesn't meet dot poison definitions prolonged breathing of the fumes should be avoided. It may only be shipped in cylinders or aerosol containers. Exposure of the aerosol containers to fire or heat can result in their rupturing and rocketing.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use water spray to absorb vapors

If material not involved in fire

Keep material out of water sources and sewers

Attempt to stop leak if without hazard

Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors

Keep upwind

Wear self-contained breathing apparatus

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

INSECTICIDE, LIQUID, N.O.S. 4910210
FLAMMABLE LIQUID NA1993

Insecticide, liquid is the proper shipping name for those materials having closed cup flash point of less than 100 deg. F. and not specifically mentioned in the hazardous materials regulations. Prolonged exposure to the vapors or contact with the liquid may result in death through inhalation or skin absorption, though the main hazard is flammability.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors

Keep upwind

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

INSECTICIDE, LIQUID, N.O.S. 4915210
COMBUSTIBLE LIQUID NA1993

Insecticide, liquid is the proper shipping name for those materials having a closed cup flash point between 100 and 199 deg. F. and not specifically mentioned in the hazardous materials regulations. Prolonged exposure to the vapors or contact with the liquid may result in death through inhalation or skin absorption, though the main hazard is combustibility.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors

Keep upwind

Wear self-contained breathing apparatus

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

INSECTICIDE, LIQUID, N.O.S. (AGRICULTURAL 4921436
INSECTICIDES OR FUNGICIDES, NEC, LIQUID)

POISON B NA2902

Insecticide, liquid, n.o.s. is a liquid material which has the property of being toxic by ingestion, inhalation, or skin absorption. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors

Keep upwind

Wear self-contained breathing apparatus

Avoid bodily contact with the material

Wear full protective clothing

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

INSECTICIDE, LIQUID, N.O.S. (INSECTICIDES OR 4910197
FUNGICIDES, AGRICULTURAL, NEC, LIQUID)

FLAMMABLE LIQUID NA1993

Insecticide liquid, n.o.s. is the proper name for those materials having a closed cup flash point of less than 100 deg. F. and not specifically mentioned in the hazardous materials regulations. Although the main hazard is flammability, prolonged exposure to the vapors or contact with the liquid may result in death through inhalation or skin absorption. In case of damage to or leaking from containers of this material, contact the pesticide safety team network. Telephone 800-424-9300.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped

Use water in flooding quantities as fog

Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

MCD 000017218

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

INSECTICIDE, LIQUID, N.O.S. (INSECTICIDES OR FUNGICIDES, AGRICULTURAL, NEC, LIQUID) 4915197
COMBUSTIBLE LIQUID NA1993

Insecticide liquid n.o.s., is the proper shipping name for those materials having a closed cup flash point between 100 and 200 deg.f and not specifically mentioned in the hazardous materials regulations. Prolonged exposure to the vapors or contact with the liquid may result in illness or death through inhalation or skin absorption though the main hazard is combustibility. In case of damage to or leakage from containers of this material, contact the pesticide safety team network. Telephone 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

INSECTICIDE, LIQUEFIED GAS, CONTAINING POISON A MATERIAL OR POISON B MATERIAL 4920550

POISON A NA1967

Insecticide, liquefied gas, containing poison a material or poison b material are formulations using a liquefied gas as a propellant to disperse the poison a or b material. It may only be shipped in cylinders which may have to be overpacked in wooden or metal containers. Prolonged exposure of the cylinders to fire or heat may result in the violent rupturing and rocketing of the cylinders. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300

If material involved in fire
 Do not extinguish fire unless flow can be stopped
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

INSTANTANEOUS FUSE 4903470
CLASS C EXPLOSIVE

Instantaneous fuse is cotton yarn impregnated with a finely-powdered deflagrating composition. It is overspun with tape and yarn, and is used to ignite multiple lengths of safety fuse from a common point.

If material on fire or involved in fire
 Flood with water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Approach fire with caution
 Avoid breathing dusts, and fumes from burning material
 Wear self-contained breathing apparatus when fighting fires involving this material

IODINE MONOCHLORIDE 4932345
CORROSIVE MATERIAL UN1792

Iodine monochloride is a reddish brown oily liquid becoming a solid at 81 deg. F. It has a pungent odor. It is decomposed by water into iodine, iodic acid and hydrochloric acid with release of heat. It is corrosive to metals and tissue.

If material involved in fire
 Use dry chemical, carbon dioxide, or dry sand
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
 Use water spray to absorb vapors
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

IODINE PENTAFLUORIDE 4918215
OXIDIZER, POISONOUS, CORROSIVE UN2495
Iodine pentafluoride is a colorless fuming liquid. It is decomposed by water to iodine and hydrofluoric acid. Contact with organic materials may result in spontaneous ignition. It is corrosive to metals and tissue. It may only be shipped in cylinders not equipped with safety relief devices. Prolonged exposure of the cylinder to fire may result in their violent rupturing and rocketing.

If material involved in fire

- Do not use water on material itself
- Use dry chemical or carbon dioxide
- Cool all affected containers with flooding quantities of water
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors

If material not involved in fire

- Keep material out of water sources and sewers
- Do not use water on material itself
- Use water spray to knock-down vapors
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

IRON CHLORIDE, SOLID (See FERRIC CHLORIDE, SOLID 4944138)

IRON MASS OR SPONGE (NOT PROPERLY OXIDIZED) 4916717
FLAMMABLE SOLID NA1383
Iron mass or sponge (not properly oxidized) is finely divided iron oxide on a wood shavings base. If the iron is not completely oxidized the iron sponge is liable to spontaneous heating as the remaining iron is oxidized. The heat from the oxidation may be sufficient to ignite the material. Iron sponge is fairly easily ignited by sparks or heat from external sources.

If material on fire or involved in fire

- Flood with water

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear boots, protective gloves, and goggles

IRON MASS, (OR) SPONGE, SPENT (IRON SPONGE, SPENT, OR SPENT OXIDE) 4916718

FLAMMABLE SOLID UN1376
Iron mass (or) sponge, spent is iron sponge saturated with sulfur from gas purification. It is quite liable to spontaneous heating. This heat may be sufficient to ignite the iron mass. It is also fairly easily ignited by sparks or heat from external sources.

If material on fire or involved in fire

- Flood with water

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear boots, protective gloves, and goggles

IRON SESQUICHLORIDE, SOLID (See FERRIC CHLORIDE, SOLID 4944138)

IRON SULPHATE (FERRIC), DRY, CRUDE (FERRIC SULFATE) 4963823

ORM-E NA9121
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Iron sulphate (ferric), dry, crude is a yellow crystalline to greyish white powder. It is used in water purification, as a soil conditioner, and for many other uses. It is slightly soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Adjust ph to neutral (ph-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

IRON SULPHATE (FERRIC), DRY, OTHER THAN CRUDE (FERRIC SULFATE) 4963818

ORM-E NA9121
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Ferric sulphate is a yellow crystalline or greyish white powder. It is used in water purification, as a soil conditioner, as a disinfectant, and for many other uses. It is soluble in water. It is non-combustible.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
- Adjust ph to neutral (ph-7)
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**IRON, POWDERED, NEC (FLAMMABLE SOLID, N.O.S.) 4916789
FLAMMABLE SOLID UN1325**

Iron, powdered, nec is a grey lustrous powder. It is used in powder metallurgy, and as a catalyst in chemical manufacture. It may react with water to give off hydrogen, a flammable gas. The heat from this reaction may be sufficient to ignite the hydrogen.

If material on fire or involved in fire

Use water only if flooding quantities are available
Use graphite, soda ash, powdered sodium chloride, or suitable dry powder

If material not on fire and not involved in fire

Do not use water
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear boots, protective gloves, and goggles

**IRRITATING AGENT, N.O.S. 4925830
IRRITATING MATERIAL NA1693**

Irritating agent, n.o.s. is the proper shipping name for those materials not specifically mentioned in the regulations having the property of giving fumes that are extremely irritating to the eyes and mucous membranes when exposed to air, or contact with fire. Try to ascertain the exact material.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical
Cool all affected containers with flooding quantities of water
Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

**ISO HEPTYL ALCOHOL (ALCOHOL, N.O.S.) 4913122
COMBUSTIBLE LIQUID UN1987**

Is heptyl alcohol is a clear colorless liquid with a pleasant odor. It is used to make other chemicals, as a solvent, and in cosmetic formulations. It has a flash point of 106 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**ISOAMYL ALCOHOL (ALCOHOL, N.O.S.) 4913127
COMBUSTIBLE LIQUID UN1987**

Isoamyl alcohol is a clear colorless liquid with a disagreeable odor. It has a flash point of 114 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**ISOBUTANE 4905747
FLAMMABLE GAS UN1075**

Isobutane is a colorless gas with a faint petroleum like odor. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapor is heavier than air and a flame can flash back to the source of leak very easily. The leak can either be a liquid or vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank car may violently rupture and rocket.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

ISOBUTANE (ISOBUTANE FOR FURTHER REFINERY PROCESSING) 4905750

FLAMMABLE GAS UN1075

Isobutane is a colorless gas with a faint petroleum like odor. It is used as an aerosol propellant, to make other chemicals, and for many other uses it is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air and a flame can flash back to the source of leak very easily. The leak can be either a liquid or vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may rupture and rocket.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
- If material leaking (not on fire), downwind evacuation must be considered

ISOBUTYL ACETATE 4909207

FLAMMABLE LIQUID UN1213

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Isobutyl acetate is a clear colorless liquid with a fruity odor. It has a flash point of 64 deg.f. It is lighter than water and insoluble in water. Its vapors are heavier than air.

It weighs 7.2 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder

Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material

Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Remove trapped material with suction hoses

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

ISOBUTYL ALCOHOL (BUTYL ALCOHOL) 4909131

FLAMMABLE LIQUID NA1120

Isobutyl alcohol is a clear colorless liquid. It has a flash point of 82 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

ISOBUTYLACRYLATE (FLAMMABLE LIQUID, N.O.S.) 4907263

FLAMMABLE LIQUID UN1993

POLYMERIZABLE

Isobutyl acrylate is a clear colorless liquid with an acrid odor. It has a flash point of 86 deg. F. The vapors are irritating to the eyes and respiratory system. If the material is subjected to heat for prolonged periods or becomes contaminated, it is subject to polymerization. If the polymerization takes place inside a container, the container may violently rupture. The material is lighter than water and slightly soluble in water.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

ISOBUTYLAMINE 4908186
FLAMMABLE LIQUID UN1214
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Isobutylamine is a clear colorless liquid with a fish like odor. It has a flash point of 15 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

It weighs 6.1 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
- Apply fluorocarbon-water foam to diminish vapor and fire hazard
- Neutralize with sodium bisulfate (nahso4)

Environmental considerations—water spill

- Add sodium bisulfate
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

- Apply water spray or mist to knock down vapors
- Vapor knockdown water is corrosive or toxic and should be diked for containment

ISOBUTYLENE 4905748
FLAMMABLE GAS UN1075

Isobutylene is a colorless gas with a faint petroleum like odor. For transportation it may be stenchod. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air and a flame can flash back to the source of leak very easily. The leak can either be in liquid or vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinder or tank car may violently rupture and rocket.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
 - Use water in flooding quantities as fog
 - Cool all affected containers with flooding quantities of water
 - Apply water from as far a distance as possible
- If material not on fire and not involved in fire**
- Keep sparks, flames, and other sources of ignition away
 - Keep material out of water sources and sewers
 - Attempt to stop leak if without hazard
 - Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
- If material leaking (not on fire), downwind evacuation must be considered

ISOBUTYRALDEHYDE (FLAMMABLE LIQUID, N.O.S.) 4908185
FLAMMABLE LIQUID UN1993

Isobutyraldehyde is a clear colorless liquid having a pungent odor. It is used to make other chemicals. It has a flash point of -40 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

ISOBUTYRIC ACID 4931438
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN2529
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Isobutyric acid is a colorless liquid with a light odor of rancid butter. It is combustible and has a flash point of 132 deg. F. It is soluble in water. It is corrosive to metals and tissue. It weighs 7.9 pounds per gallon.

MCD 000017223

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Use water spray to absorb vapors

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Vapor knockdown water is corrosive or toxic and should be diked for containment

ISOBUTYRIC ANHYDRIDE 4931439
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN2530
 Isobutyric anhydride is a colorless liquid. It is combustible and has a flash point of 139 deg. F. It is decomposed by water to isobutyric acid, which is water soluble with release of heat. It is corrosive to metals and skin.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

ISOBUTYRONITRILE (FLAMMABLE LIQUID, N.O.S.) 4909208
FLAMMABLE LIQUID UN1993
 Isobutyronitrile is a clear colorless liquid. It has a flash point of 47 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

ISONONANYL PEROXIDE, (TECHNICALLY PURE)(OR) 4919174
ISONONANYL PEROXIDE, (IN SOLUTION)
ORGANIC PEROXIDE UN2128
 Isononanyl peroxide, (technically pure or) isononanyl peroxide, (in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Dangerously explosive

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep spilled material wet
 Wet spilled material before picking it up

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If the material is on fire or involved in fire evacuate for a radius of 2500 feet

MCD 000017224

ISOOCANE 4908188
FLAMMABLE LIQUID UN1262

Isocane is a clear colorless liquid having a petroleum like odor. It has a flash point of 10 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

ISOOCENE 4908189
FLAMMABLE LIQUID UN1216

Isocene is a clear colorless liquid having a petroleum-like odor. It has a flash point of less than 20 deg. F. It is lighter than water and insoluble in water. Its vapors are lighter than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

ISOOCYL ALCOHOL, OTHER THAN PERFUMERY GRADE (ALCOHOL, N.O.S.) 4913128
COMBUSTIBLE LIQUID UN1987

Isocyl alcohol, other than perfumery grade, is a clear colorless liquid with a faint pleasant odor. It is used as a solvent, in the making of cutting and lubricating oils, in hydraulic fluids, and in the production of other chemicals. It has a flash point of 180 deg.f. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

ISOOCYL ALCOHOL, PERFUMERY GRADE (ALCOHOL, N.O.S.) 4913129
COMBUSTIBLE LIQUID UN1987

Isocyl alcohol, perfumery grade is a clear colorless liquid with a faint pleasant odor. It is used as an ingredient of cosmetics. It has flash point of 180 deg.f. It is lighter than water and in soluble in water. Its vapors are heavier than air

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

ISOPENTANE 4908192
FLAMMABLE LIQUID UN1265

Isopentane is a clear colorless liquid having a petroleum like odor. It has a flash point of -70 deg. F. a boiling point of 82 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

**ISOPENTANOIC ACID
CORROSIVE MATERIAL**

**4931440
NA1760**

Isopentanoic acid is a colorless liquid with a penetrating odor. It is slightly soluble in water. It is corrosive to metals and to tissue.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

**ISOPRENE
FLAMMABLE LIQUID
POLYMERIZABLE**

**4907230
UN1218**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
Isoprene is a clear colorless liquid with a petroleum-like odor. It has a flash point of -65 deg. F. and a boiling point of 93 deg. F. If it becomes contaminated or is subjected to heat, isoprene may polymerize. If the polymerization take place in a container, the container is subject to violent rupture. It is lighter than water and insoluble in water. Its vapors are heavier than air.

It weighs 5.7 pounds per gallon.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Apply "universal" gelling agent to immobilize spill

Environmental considerations—water spill

Use natural barriers or oil spill control booms to limit spill motion
Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

**ISOPROPANOL
FLAMMABLE LIQUID**

**4909205
UN1219**

Isopropanol is a clear colorless liquid with a medicinal odor. It is used to make other chemicals, as a solvent, in pharmaceuticals (rubbing alcohol), and for many other uses. It has a flash point of 53 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

ISOPROPANOL AND METHANOL MIXTURE 4909206
(ALCOHOL, N.O.S.)
FLAMMABLE LIQUID UN1987
 Isopropanol and methanol mixture is a clear colorless liquid. It has a flash point of 52-55 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

ISOPROPANOLAMINE 4963359
DODECYLBENZENESULFONATE
ORM-E NA9127
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
 Isopropanolamine dodecylbenzenesulfonate is a white to light yellow granular solid. It is used as a detergent. It is soluble in water. It will burn though it may require some effort to ignite.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

ISOPROPYL NITRATE 4907035
FLAMMABLE LIQUID UN1222
THERMALLY UNSTABLE
 Isopropyl nitrate is a clear colorless liquid with a pleasant odor. It has a flash point between 32 and 73 deg. F. Prolonged exposure of the material to heat may result in the spontaneous decomposition of the material and this decomposition may reach explosive violence. Prolonged exposure of the containers of the material to fire or heat may result in the violent rupturing of the containers due to the decomposition of the material. It is heavier than water and insoluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
 If material leaking (not on fire), downwind evacuation must be considered

ISOPROPYL ACETATE 4909210
FLAMMABLE LIQUID UN1220
 Isopropyl acetate is a clear colorless liquid. It has a flash point of 40 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

ISOPROPYL ACID PHOSPHATE, SOLID 4933335
CORROSIVE MATERIAL, ACIDIC UN1793
 Isopropyl acid phosphate is a white crystalline solid. It is corrosive to metals and tissue.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**ISOPROPYL MERCAPTAN
FLAMMABLE LIQUID**

**4908205
UN2703**

Isopropyl mercaptan is a colorless liquid having a very strong disagreeable odor. It has a flash point of -30 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

**ISOPROPYL PERCARBONATE, STABILIZED
ORGANIC PEROXIDE**

**4919550
NA2134**

Isopropyl percarbonate is a white granular solid. It must be shipped in refrigerated containers by private or contract motor carriage. It is insoluble in water. Spontaneous decomposition at room temperature releases flammable and corrosive products. It will accelerate the burning of combustible materials.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts
- Keep upwind
- Avoid bodily contact with the material

- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**ISOPROPYL PERCARBONATE, UNSTABILIZED
ORGANIC PEROXIDE**

**4919551
NA2133**

Isopropyl percarbonate, unstabilized is a white crystalline or granular solid. It must be shipped in refrigerated containers by private or contract motor carriage. It is insoluble in water. Spontaneous decomposition at room temperature releases flammable and corrosive products. It will accelerate the burning of combustible materials.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

**ISOPROPYL PEROXYDICARBONATE, (NOT MORE
THAN 52% IN SOLUTION)
ORGANIC PEROXIDE**

**4919176
UN2134**

Isopropyl peroxydicarbonate, (not more than 52% in solution) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

ISOPROPYL PEROXYDICARBONATE, (TECHNICALLY PURE) 4919175

ORGANIC PEROXIDE UN2133

Isopropyl peroxydicarbonate, (technically pure) is a white solid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. It is easily ignited and burns with increasing rapidity as the fire progresses. It can form explosive mixtures with finely divided combustible materials. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation

If the material is on fire or involved in fire evacuate for a radius of 2500 feet

ISOPROPYLAMINE 4908194
FLAMMABLE LIQUIDS UN1221

Isopropylamine is a clear colorless liquid with an ammonia-like odor. It is used as a solvent and to make other chemicals. It has a flash point of -35 deg. F. and a boiling point of 90 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during the combustion of the material.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible

Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Keep material out of water sources and sewers

Build dikes to contain flow as necessary

Attempt to stop leak if without hazard

Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors

Keep upwind

Avoid bodily contact with the material

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet

If material leaking (not on fire), downwind evacuation must be considered

ISOPROPYLTOLUENE (COMBUSTIBLE LIQUID, N.O.S.) 4913147

COMBUSTIBLE LIQUID NA1993

Isopropyltoluene is a clear colorless liquid with an aromatic odor. It has a flash point of 117 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors

Keep upwind

Wear boots, protective gloves, and goggles

Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water

JET THRUST UNIT (JATO) 4902510
CLASS B EXPLOSIVE

Jet thrust unit (jato) is a metal cylinder containing a mixture of chemicals capable of burning rapidly. They are used to furnish auxiliary thrust in the launching of aircraft, missiles etc. The usual (jato) units contain solid propellant although units based on liquid propellants are also used. Under prolonged exposure to heat or fire these units may explode.

If material on fire or involved in fire

Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

MCD 000017229

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

JET THRUST UNIT (JATO) 4901340
CLASS A EXPLOSIVE
Jet thrust unit (jato) consists of a metal cylinder containing propellant explosive capable of burning rapidly and producing considerable pressure. These units are designed to be ignited by an electric igniter.
If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

KELTHANE (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4966930
ORM-E NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
Kelthane is a white crystalline solid dissolved in a liquid carrier. It is used as a pesticide. The carrier is water emulsifiable. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash or cement powder
Environmental considerations—water spill
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

KELTHANE (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4966940
ORM-E NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
Kelthane is a white crystalline solid. it is used as a pesticide. It is a wettable powder. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water
Environmental considerations—water spill
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

KELTHANE (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4966920
ORM-E NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
Kelthane is a white crystalline solid or the solid dissolved on a liquid carrier. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water
Environmental considerations—water spill
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

MCD 000017230

KEPONE 4960140
ORM-E NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
Kepone is a white solid. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

KEROSENE 4915171
COMBUSTIBLE LIQUID UN1223

Kerosene is a clear colorless to light amber liquid with a petroleum odor. It has a flash point of 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

KITS, PNEUMATIC TIRE CLEANING, AUTO 4915484
(COMBUSTIBLE LIQUID, N.O.S.) NA1993
COMBUSTIBLE LIQUID

Kits, pneumatic tire cleaning, auto is a material containing a solvent having a closed cup flash point between 100 and 199 deg. F. The hazard of this material is combustibility.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water

Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

KITS, PNEUMATIC TIRE CLEANING, AUTO 4910484
(FLAMMABLE LIQUID, N.O.S.)

FLAMMABLE LIQUID

UN1993

Kits, pneumatic tire cleaning, auto is a material containing a solvent having a closed cup flash point of less than 100 deg. F. The hazard of this material is flammability.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LACQUER BASE DRY 4917323
FLAMMABLE SOLID NA2557

Lacquer base dry is the solid material used in making lacquers (paint). Because the material contains nitrocellulose, it is very flammable and easily ignited. Toxic oxides of nitrogen are produced during combustion.

If material on fire or involved in fire

Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical
Cool all affected containers with flooding quantities of water

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away

Personnel protection

Wear self-contained breathing apparatus when fighting fires involving this material

LACQUER BASE OR LACQUER CHIPS, PLASTIC 4910217
(WET WITH ALCOHOL OR SOLVENT)

FLAMMABLE LIQUID

NA1263

Lacquer base or lacquer chips, plastic contain a flammable solvent. Its flash point is 100 deg. F. or lower. The hazard is flammability.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

LACQUER CHIPS, DRY 4917324
FLAMMABLE SOLID NA2557

Lacquer chips, dry is the solid material used in making lacquers (paint). Because the material contains nitrocellulose it is very flammable and easily ignited. Toxic oxides of nitrogen are produced during combustion.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical
 Cool all affected containers with flooding quantities of water

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Wear self-contained breathing apparatus when fighting fires involving this material

LACQUER THINNING COMPOUNDS, USED 4910486
(COMPOUND, LACQUER, THINNING)
FLAMMABLE LIQUID NA1142

Lacquer thinning compounds used are generally clear colorless liquids. The flash point is below 100 deg. F. Most of these compounds are lighter than water and only partially soluble in water. Their vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

LACQUER THINNING COMPOUNDS, USED 4915486
(COMPOUND, LACQUER, THINNING)
COMBUSTIBLE LIQUID NA1142

Lacquer thinning compounds used are generally clear colorless liquids. The flash point is between 100 and 199 deg. F. Most of these compounds are lighter than water and only partially soluble in water. Their vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

LACTIC ACID (HYDROXYPROPIONIC ACID) (ACID, 4931757
LIQUID, N.O.S.)

CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE NA1760
 Lactic acid is a colorless to yellow syrupy liquid and is odorless. It is used to make cultured dairy products, as a food preservative, and to make chemicals. It is soluble in water. It is corrosive to metals and tissue.

If material on fire or involved in fire
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Use water spray to absorb vapors

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash or cement powder
Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors
 Vapor knockdown water is corrosive or toxic and should be diked for containment

MCD 000017282

LAUROYL PEROXIDE **4919560**
ORGANIC PEROXIDE **UN2124**
Lauroyl peroxide is a coarse white powder. It is shipped either dry or 30 percent water wet. Dry, the material is easily ignited and burns with increasing rapidity as the fire progresses, though not as vigorously as some other peroxides. Dry or wet it supports the burning of combustible materials. Under prolonged exposure to heat or fire containers of the material may explode.

If material on fire or involved in fire
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection
Avoid breathing vapors or dusts
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

LAUROYL PEROXIDE, (NOT MORE THAN 42%,STABLE DISPERSION, IN WATER) **4919167**
ORGANIC PEROXIDE **UN2893**
Lauroyl peroxide, (not more than 42%,stable dispersion, in water) is a colorless to pale yellow liquid. it is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Dangerously explosive

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep spilled material wet
Wet spilled material before picking it up

Personnel protection
Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing
Approach fire with caution

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 2500 feet

LEAD ACETATE **4966640**
ORM-E **UN1616**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
Lead acetate is a white crystalline solid. It is used to make other lead compounds, in chemical analysis, as an insecticide, and for many other uses. It is soluble in water. It is non-combustible.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

LEAD ARSENATE AND SULPHUR, DRY (LEAD ARSENATE, SOLID) **4923318**
POISON B **UN1617**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
Lead arsenate and sulphur, dry is a yellow white to yellow powder. It is insoluble in water. It is toxic by inhalation and ingestion.
Lead arsenate and sulphur, dry (lead arsenate, solid) na2020

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Add ferric chloride (fcl3)
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

LEAD ARSENATE, SOLID 4923235
POISON B UN1617
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Lead arsenate, solid is a white powder. It is insoluble in water. It is toxic by skin absorption, inhalation (dust) and by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Add ferric chloride (fcl3)
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

LEAD ARSENATE, SOLID (LEAD ARSENATE, PASTE) 4923234
POISON B UN1617
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Lead arsenate, paste is the white powder mixed with water to form a thick slurry. It is insoluble in water. The dried material is toxic by skin absorption, inhalation (powder) and by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Add ferric chloride (fcl3)
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

LEAD ARSENITE, SOLID 4923236
POISON B UN1618

Lead arsenite, solid is a white powder. It is insoluble in water. It is toxic by inhalation (dust) and by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

LEAD BAGHOUSE FLUE DUST (FLUE DUST, POISONOUS) 4923361

POISON B NA2811

Lead baghouse flue dust is a greyish black powder. It is insoluble in water. It is toxic by inhalation (dust, etc.) and by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

LEAD CHLORIDE 4944130
ORM-B NA2291

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Lead chloride is a white crystalline solid. It is used to make other lead compounds and in analytical chemistry. It is insoluble in cold water and is soluble in hot water. It is non-combustible. It is corrosive to aluminum.

Continued on next page

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with
copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire
fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone,
or sodium bicarbonate
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of
pollutants and precipitates

**LEAD CYANIDE
POISON B**

**4923447
UN1620**

Lead cyanide is a white to yellowish powder. It is slightly soluble in
water and is gradually decomposed by water and very rapidly decom-
posed by acids to give off hydrogen cyanide, a flammable poison gas.
It is toxic by skin absorption through open wounds, by ingestion, and
by inhalation of dusts or hydrogen cyanide decomposition of the material.
Toxic oxides of nitrogen are produced in fires involving this material.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use foam, carbon dioxide or dry chemical
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding
quantities as spray and fog
Use water spray to absorb vapors

If material not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Use water spray to knock-down vapors
Keep material dry

Personnel protection

Avoid breathing vapors or dusts
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involv-
ing this material
If contact with the material anticipated, wear full protective clothing

**LEAD FLUE DUST (FLUE DUST, POISONOUS)
POISON B**

**4923360
NA2811**

Lead flue dust is a greyish black powder. It is insoluble in water. It is
toxic by inhalation (dust, etc.) and by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involv-
ing this material
If contact with the material anticipated, wear full protective clothing

**LEAD FLUOBORATE
ORM-B**

**4944133
NA2291**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Lead fluoborate is a colorless crystalline solid. It is used in metal
plating and finishing. It is corrosive to aluminum.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use foam, carbon dioxide or dry chemical
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding
quantities as spray and fog

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with
copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involv-
ing this material
If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire
fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone,
or sodium bicarbonate
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of
pollutants and precipitates

**LEAD FLUORIDE
ORM-B**

**4944140
NA2811**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Lead fluoride is a white crystalline solid. It is used in electronics and
to make optical glasses. It is insoluble in water. It is non-combustible.
It is corrosive to aluminum.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with
copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

LEAD IODIDE 4966950
ORM-E NA2811
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Lead iodide is a yellow crystalline solid. It is used in printing and photography, to seed clouds and other uses. It is insoluble in water. It is non-combustible.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

LEAD NITRATE 4918726
OXIDIZER UN1469
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Lead nitrate is a white crystalline solid. The material is soluble in water. It is non-combustible but it will accelerate the burning of combustible materials. If large quantities of the material are involved in the fire an explosion may result. Prolonged exposure of the material to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material.

If material on fire or involved in fire
Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If fire becomes uncontrollable—evacuate for a radius of 2500 feet

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

LEAD PEROXIDE, GROUND, DRY (LEAD PEROXIDE 4918779
OXIDIZER UN1872

Lead peroxide, ground, dry is a brown granular or powdered material. It is insoluble in water. It is non-combustible but it will accelerate the burning of combustible material.

If material involved in fire
Flood with water

If material not involved in fire
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LEAD PEROXIDE, PASTE (LEAD PEROXIDE) 4918780
OXIDIZER UN1872

Lead peroxide, paste is a brown dough-like material. The usual liquid in the paste is water or acetic acid. It is insoluble in water. Lead peroxide itself is non combustible but it will accelerate the burning of combustible materials.

If material involved in fire
Flood with water

If material not involved in fire
Keep material out of water sources and sewers

Personnel protection
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LEAD STEARATE 4966960
ORM-E NA2811
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Lead stearate is a white powder. It is used as a corrosion inhibitor, as a dryer for paints, and for many other uses. It is slightly soluble in water. It will burn though it may take some effort to ignite.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Continued on next page

MCD 000017236

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

LEAD SULFATE, SOLID (CONTAINING MORE THAN 3% FREE ACID) 4930237

CORROSIVE MATERIAL, ACIDIC UN1794 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Lead sulfate, solid (containing more than 3% free acid) is a white wet-looking solid. The lead sulfate itself is insoluble in water. The sulfuric acid is soluble in water. The material is corrosive to metals and tissue.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

**LEAD SULFIDE 4966987
ORM-E NA2291**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Lead sulfide is a silvery metallic crystalline solid or black powder. It is used to make ceramics, in the electronic industry, and for other uses. It is insoluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**LEAD SULPHATE, CRUDE (LEAD SULFATE) 4966970
ORM-E UN1794**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Lead sulphate, crude is a white to grey crystalline solid. Refined it is used to make storage batteries, and as in certain paints as a pigment. It is slightly soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

**LEAD SULPHATE, REFINED (LEAD SULFATE) 4966980
ORM-E UN1794**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Lead sulphate, refined is a white crystalline solid. It is used to make storage batteries and as a pigment in specialized paints. It is slightly soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

LEAD THIOCYANATE

4966356

ORM-E

NA2291

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Lead thiocyanate is a white to yellow crystalline solid. It is used to make explosives, safety matches, and in dyeing. It is slightly soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

LEATHER BLEACH

4910222

FLAMMABLE LIQUID

NA1142

Leather bleach is a commercial preparation which may contain a flammable solvent which has a flash point of less than 100 deg. F. The hazard is flammability.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LEATHER BLEACH

4915222

COMBUSTIBLE LIQUID

NA1142

Leather bleach is a commercial preparation which may contain a solvent having a flash point between 100 and 199 deg. F. The hazard is combustibility.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LEATHER DRESSING

4910223

FLAMMABLE LIQUID

NA1142

Leather dressing is a commercial preparation which may contain a flammable solvent. In this case the hazard is the flammability of the solvent.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LEATHER DRESSING

4915223

COMBUSTIBLE LIQUID

NA1142

Leather dressing is a commercial preparation which may contain a solvent having a flash point between 100 and 199 deg. F. The hazard is combustibility.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Continued on next page

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LEWISITE (POISONOUS LIQUID, N.O.S.) 4920517
POISON A NA9035

Lewisite is a colorless liquid with a geranium-like odor. It is colorless when pure but impurities will have the color ranging from brown to violet. It is toxic by inhalation and skin absorption. Contact with the skin will also cause severe burns. At concentrations below that at which one can detect the material by smell, it is irritating to the eyes and mucous membranes. It is slowly decomposed by water. It may only be shipped in cylinders. Prolonged exposure of the cylinders to fire or heat may result in the violent rupturing and rocketing of the cylinders.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

LIGHTER FLUID 4910125
FLAMMABLE LIQUID UN1226

Lighter fluid is a clear colorless liquid with a petroleum like odor. It has a flash point of less than 100 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LIGNITE ASH, URANIUM BEARING (RADIOACTIVE 4926438
MATERIAL, LOW SPECIFIC ACTIVITY, (OR), LSA,
N.O.S.)

RADIOACTIVE MATERIAL UN2912

Lignite ash, uranium bearing, is a greyish to light tan colored solid. Radioactive materials emit certain rays that may be hazardous. These rays can be detected only by instruments. Exposure of humans to intense radiation may be harmful, whereas film may be damaged by radiation from relatively low concentrations.

If material involved in fire

Contact the local, state, or department of energy radiological response team
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire

Contact the local, state, or department of energy radiological response team
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection

Keep upwind
Avoid breathing fumes from burning material
Wear full protective clothing
Wear self-contained breathing apparatus
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LIME SALTS, NEC (CORROSIVE SOLID, N.O.S.) 4935255
CORROSIVE MATERIAL, BASIC UN1759

Lime salts, nec are various calcium containing compounds having the property of being corrosive to either metals and/or tissue.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Apply water from as far a distance as possible

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LINDANE (AGRICULTURAL INSECTICIDES, NEC, 4941151
LIQUID)

ORM-A NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Lindane is a white to yellow liquid dissolved in a liquid carrier. It is used as a pesticide. It is a water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
- Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill

- Use natural barriers or oil spill control booms to limit spill motion
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

LINDANE (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4941152

ORM-A NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Lindane is a white to yellow solid. It is used as a pesticide. It is a wettable powder. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- Remove trapped material with suction hoses
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

LINDANE (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4941150

ORM-A NA2761
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Lindane is a white to yellow solid or the solid dissolved in a liquid carrier. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire

- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Keep upwind
- Wear boots, protective gloves, and goggles
- Avoid breathing vapors or dusts
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

LIQUEFIED NONFLAMMABLE GASES (CHARGED WITH NITROGEN, CARBON DIOXIDE, OR AIR) 4904840

NONFLAMMABLE GAS NA1058

Liquefied nonflammable gases are liquids other than those classified as flammable, corrosive or poisonous which are charged with nitrogen, carbon dioxide, or air for the purpose of expelling the liquid from the container. In the case of aerosols the violent rupture and rocketing of the container is possible if the container is exposed to fire or heat.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not involved in fire

- Attempt to stop leak if without hazard

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment

LIQUEFIED PETROLEUM GAS 4905752

FLAMMABLE GAS UN1075

Liquefied petroleum gas is a colorless gas with a faint petroleum like odor shipped as a liquid under its vapor pressure. For transportation it may be stencched. Contact with the liquid can cause frostbite. It is easily ignited. Its vapor is heavier than air and a flame can flash back to the source of leak very easily. This leak may be either a liquid or vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinders can rupture and rocket.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Continued on next page

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
 If material leaking (not on fire), downwind evacuation must be considered

**LIQUEFIED PETROLEUM GAS (PINTSCH GAS) 4905780
 FLAMMABLE GAS UN1075**
 Pintsch gas is a colorless gas with a petroleum-like odor. It is shipped as a liquefied gas under its vapor pressure. For transportation it may be stented. Contact with the liquid can cause frostbite. It is easily ignited. Its vapor is heavier than air and a flame can flash back to the source of leak very easily. This leak can be either a liquid or vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may violently rupture and rocket.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear protective gloves and goggles
 Do not handle broken packages without protective equipment
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
 If material leaking (not on fire), downwind evacuation must be considered

**LIQUORS, ALCOHOLIC, NEC (ALCOHOLIC BEVERAGE) 4910225
 FLAMMABLE LIQUID UN1170**
 Alcoholic liquors are beverages containing alcohol. They have sufficient alcohol in them for the flash point to be below 100 deg. F. They are about the same density as water and soluble in water. The alcohol vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

**LIQUORS, ALCOHOLIC, NEC (ALCOHOLIC BEVERAGE) 4915225
 COMBUSTIBLE LIQUID UN1170**
 Alcoholic liquors are beverages containing alcohol. They have sufficient alcohol in them for the flash point to be between 100 and 199 deg. F. They are about the same density as water and soluble in water. The alcohol vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

**LITHIUM ACETYLIDE-ETHYLENE DIAMINE COMPLEX 4916415
 FLAMMABLE SOLID NA2813
 WATER REACTIVE**
 Lithium acetylide-ethylene diamine complex is a crystalline solid. It can absorb moisture from the air and spontaneously heat and ignite. It reacts with water to form lithium hydroxide, a corrosive material, and acetylene, a flammable gas. The heat of this reaction may be sufficient to ignite the acetylene.

If material on fire or involved in fire
 Do not use water
 Use graphite, soda ash, powdered sodium chloride, or suitable dry powder

If material not on fire and not involved in fire
 Do not use water
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep material dry

Personnel protection
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Approach fire with caution
 Wear self-contained breathing apparatus when fighting fires involving this material

**LITHIUM ALUMINUM HYDRIDE
FLAMMABLE SOLID
WATER REACTIVE**

**4916420
UN1410**

Lithium aluminum hydride is a light greyish white powder. It is used to make other chemicals, as a polymerization catalyst, as a hydrogen source, and as a propellant. If spread out over a large flat combustible surface friction may be sufficient to cause ignition. It reacts with water to form lithium hydroxide, a corrosive material, aluminum hydroxide and hydrogen, a flammable gas. The heat of this reaction may be sufficient to ignite the hydrogen. The lithium and aluminum hydroxides are corrosive. It may react violently with heat or oxidizing materials.

If material on fire or involved in fire

Do not use water
Use graphite, soda ash, powdered sodium chloride, or suitable dry powder

If material not on fire and not involved in fire

Do not use water
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry
Do not attempt to sweep up dry material

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**LITHIUM ALUMINUM HYDRIDE, ETHEREAL
FLAMMABLE LIQUID**

**4908215
UN1411**

Lithium aluminum hydride, ethereal is the solution of lithium aluminum hydride in an ether solvent. It is used to make other chemicals, and as a catalyst in making plastics. It has a flash point of less than 20 deg. F. It reacts with water giving off hydrogen, a flammable gas. The heat of this reaction may be sufficient to ignite the hydrogen. It can react violently if in contact with oxidizers. If the solvent evaporates the solid remaining is a white powder. If subject to very light friction, a fire is very likely to result. The solvent vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Do not use water
Use "alcohol" foam, carbon dioxide or dry chemical
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Do not use water
Do not attempt to sweep up dry material

Personnel protection

Avoid breathing fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

**LITHIUM AMIDE, POWDERED
FLAMMABLE SOLID**

**4916722
UN1412**

Lithium amide is a white to greyish crystalline solid with an ammonia-like odor. It is used to make other chemicals. It reacts with water to form lithium hydroxide a corrosive material, and ammonia, a nonflammable gas. the heat from this decomposition may be sufficient to ignite surrounding combustible materials.

If material on fire or involved in fire

Do not use water
Use graphite, soda ash or powdered sodium chloride

If material not on fire and not involved in fire

Do not use water
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry

Personnel protection

Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

**LITHIUM BOROHYDRIDE
FLAMMABLE SOLID
WATER REACTIVE**

**4916421
UN1413**

Lithium borohydride is a white to greyish crystalline powder. It is decomposed by water to form lithium hydroxide, a corrosive material, and hydrogen, a flammable gas. The heat of this reaction may be sufficient to ignite the hydrogen. The material itself is easily ignited and burns vigorously once ignited.

If material on fire or involved in fire

Do not use water
Use graphite, soda ash, powdered sodium chloride, or suitable dry powder

If material not on fire and not involved in fire

Do not use water
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry
Do not attempt to sweep up dry material

Personnel protection

Avoid breathing dusts, and fumes from burning material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

**LITHIUM CHROMATE
ORM-E
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)**

**4963720
NA9134**

Lithium chromate is a yellow crystalline solid. It is used as a corrosion inhibitor and in the manufacture of other chemicals. It is soluble in water. It is non-combustible.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)

If material not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Continued on next page

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate
 Add soda ash
 Adjust ph to neutral (ph-7)
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

LITHIUM FERRO SILICON 4916422
FLAMMABLE SOLID UN2830
WATER REACTIVE

Lithium ferro silicon is in the form of crystalline metallic lumps or powder. It reacts with water to form lithium hydroxide, a corrosive material and hydrogen, a flammable gas. The heat of the reaction may be sufficient to ignite the hydrogen.

If material on fire or involved in fire
 Do not use water
 Do not use carbon dioxide
 Use suitable dry powder
 Use dry chemical or carbon dioxide

If material not on fire and not involved in fire
 Do not use water
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep material dry

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

LITHIUM HYDRIDE 4916424
FLAMMABLE SOLID UN1414
WATER REACTIVE

Lithium hydride is a greyish white granular powder. It reacts with water to form lithium hydroxide, a corrosive material, and hydrogen, a flammable gas. The heat of this reaction may be sufficient to ignite the hydrogen. It may react violently with heat or oxidizing materials.

If material on fire or involved in fire
 Do not use water
 Do not use dry chemical or carbon dioxide
 Use graphite, soda ash or powdered sodium chloride

If material not on fire and not involved in fire
 Do not use water
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep material dry

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

LITHIUM HYDRIDE IN FUSED SOLID FORM 4916425
FLAMMABLE SOLID UN2805
WATER REACTIVE

Lithium hydride in fused solid form exists as greyish white lumps. It is used to make other chemicals, as a hydrogen source, and for other uses. It reacts with water to form lithium hydroxide, a corrosive material and hydrogen a flammable gas. The heat from this decomposition may be sufficient to ignite the hydrogen. It may react violently with heat or oxidizing materials.

If material on fire or involved in fire
 Do not use water
 Do not use dry chemical or carbon dioxide
 Use graphite, soda ash or powdered sodium chloride

If material not on fire and not involved in fire
 Do not use water
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep material dry

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

LITHIUM HYPOCHLORITE COMPOUND, DRY 4918727
CONTAINING MORE THAN 39 PERCENT
AVAILABLE CHLORINE UN1471
OXIDIZER

Lithium hypochlorite compound, dry is a white granular solid or tabs compressed from the granules with an odor of chlorine. It is used as a dry bleach. It is noncombustible but it will accelerate the burning of combustible material. It is decomposed by water with the evolution of chlorine gas and heat. Prolonged exposure of the material to fire or heat may result in the vigorous decomposition of the material and the rupture of its container. Material containing less than 39 percent available chlorine will undergo reactions described above though it may take longer to initiate and the resulting reactions may not be as vigorous.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 2500 feet

LITHIUM METAL 4916428
FLAMMABLE SOLID UN1415
WATER REACTIVE

Lithium metal is a soft silvery metal though normally greyish white due to oxide formation. It reacts with water to form lithium hydroxide a corrosive material, and hydrogen a flammable gas. The heat of this reaction may be sufficient to ignite the hydrogen. If lithium metal is heated to its melting point, spontaneous ignition is likely.

If material on fire or involved in fire
Do not use water
Do not use carbon dioxide
Use graphite, soda ash, powdered sodium chloride, or suitable dry powder
If material not on fire and not involved in fire
Do not use water
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LITHIUM METAL, IN CARTRIDGES **4916429**
FLAMMABLE SOLID **UN1415**
WATER REACTIVE

Lithium metal in cartridges is a very limited quantity of the soft silvery metal sealed in a copper tube overpacked in a wooden box. Lithium reacts with water to form lithium hydroxide, a corrosive material and hydrogen a flammable gas. The heat of this reaction may be sufficient to ignite the hydrogen.

If material on fire or involved in fire
Do not use water
Do not use carbon dioxide
Use graphite, soda ash, powdered sodium chloride, or suitable dry powder
If material not on fire and not involved in fire
Do not use water
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LITHIUM NITRIDE **4916432**
FLAMMABLE SOLID **UN2806**
WATER REACTIVE

Lithium nitride is a reddish brown powder, it is used in metallurgy, and to make other chemicals. It is easily ignited and burns slowly with intense heat. Moisture intensifies the fire. It reacts with water to form lithium hydroxide, a corrosive material and ammonia, a nonflammable gas. The heat of the reaction may be sufficient to ignite nearby combustible materials or the material itself.

If material on fire or involved in fire
Do not use water
Do not use dry chemical or carbon dioxide
Use graphite, soda ash or powdered sodium chloride
If material not on fire and not involved in fire
Do not use water
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LITHIUM PEROXIDE **4918520**
OXIDIZER, CORROSIVE **UN1472**

Lithium peroxide is a white to light yellow granular solid. It is soluble in water. Contaminants can cause the solution to decompose to a lithium hydroxide solution which is corrosive. The material itself is non-combustible but it accelerates the burning of combustible material. Prolonged exposure of the material and/or its containers to fire or heat may result in a vigorous chemical reaction and the resulting rupture of the containers.

If material on fire or involved in fire
Use suitable dry powder
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Personnel protection
Avoid breathing dusts, and fumes from burning material
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing
Approach fire with caution
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 1500 feet

LITHIUM SILICON **4916431**
FLAMMABLE SOLID **UN1417**
WATER REACTIVE

Lithium silicon is a black, lustrous powder to lump material with a sharp irritating odor. It reacts with water to form lithium hydroxide a corrosive material and hydrogen, a flammable gas. The heat of this reaction may be sufficient to ignite the hydrogen.

If material on fire or involved in fire
Do not use water
Do not use carbon dioxide
Use graphite, soda ash, powdered sodium chloride, or suitable dry powder
If material not on fire and not involved in fire
Do not use water
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry
Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LONDON PURPLE, SOLID **4923237**
POISON B **UN1621**

London purple, solid consists of a mixture of arsenic trioxide, aniline, lime and ferrous oxide. It is insoluble in water. It is toxic by inhalation (dust, etc.) and by ingestion.

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Continued on next page

MCD 000017244

Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

LOW EXPLOSIVE 4901705
CLASS A EXPLOSIVE

Low explosive is a solid material which can be made to burn very vigorously by means of a spark or flame. Upon prolonged exposure to fire containers of the material can explode.

If material on fire or involved in fire
Dangerously explosive
Do not fight fires in a cargo of explosives
Evacuate area and let burn
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep spilled material wet
Wet spilled material before picking it up
Do not attempt to sweep up dry material

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
If the material is on fire or involved in fire evacuate for a radius of 5000 feet

LUBRICATING OIL, NEC (COMBUSTIBLE LIQUID, N.O.S.) 4915229

COMBUSTIBLE LIQUID NA1993
Lubricating oil, nec, is a variable colored liquid with a petroleum-like odor. It has a flash point between 100 and 200 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LUBRICATING SYSTEM SIGHT FEED FLUID (COMBUSTIBLE LIQUID, N.O.S.) 4915228

COMBUSTIBLE LIQUID NA1993
Lubricating system sight feed fluid is a variable colored liquid with a petroleum-like odor. It has a flash point between 100 and 200 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

LUTIDENE (FLAMMABLE LIQUID, N.O.S.) 4909181
FLAMMABLE LIQUID UN1993

Lutidene is a colorless liquid having a peppermint odor. It is used to make other chemicals. It has a flash point of 92 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard

Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

LYE, CONCENTRATED, NEC (SODIUM HYDROXIDE, DRY, SOLID, FLAKE, BEAD OR GRANULAR) 4935262
CORROSIVE MATERIAL, BASIC UN1823
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Lye, concentrated, nec is a white solid. It is soluble in water with release of heat. It absorbs moisture from the air and dissolves in it. It is corrosive to metals and tissue.

MCD 000017245

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Apply water from as far a distance as possible
If material not involved in fire
 Keep material out of water sources and sewers
Personnel protection
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water
Environmental considerations—water spill
 Neutralize with dilute acid or removable strong acid

MAGNESIUM ALUMINUM PHOSPHIDE 4916440
FLAMMABLE SOLID UN1419
WATER REACTIVE

Magnesium aluminum phosphide is a crystalline or a grey lump solid.
 It reacts with water to form magnesium and aluminum hydroxides and
 phosphine a flammable poisonous gas. Phosphine will normally ignite
 spontaneously in contact with air.

If material on fire or involved in fire
 Do not use water
 Use dry chemical or carbon dioxide
If material not on fire and not involved in fire
 Do not use water
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep material dry
Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material

MAGNESIUM ARSENATE, SOLID 4923238
POISON B UN1622

Magnesium arsenate, solid is a white powder. It is insoluble in water.
 It is toxic by inhalation (dust, etc.) and by ingestion.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical
If material not involved in fire
 Keep material out of water sources and sewers
Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
 If contact with the material anticipated, wear full protective clothing

MAGNESIUM NITRATE 4918728
OXIDIZER UN1474

Magnesium nitrate is a white crystalline solid. it is used in pyrotechnics.
 it absorbs moisture from the air and dissolves in it. The material is soluble
 in water. It is noncombustible but it will accelerate the burning of com-
 bustible materials. If large quantities of the material are involved in the
 fire or the combustible material is finely divided an explosion may result.
 Prolonged exposure of the material to fire or heat may result in an
 explosion. Toxic oxides of nitrogen are produced in fires involving this
 material.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
Personnel protection
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 2500 feet

MAGNESIUM PERCHLORATE 4918729
OXIDIZER UN1475

Magnesium perchlorate is a white crystalline solid. it is used as a
 drying agent and as an oxidizing agent. It strongly absorbs water from
 air and dissolves in it. The material is soluble in water. It is noncom-
 bustible but it will accelerate the burning of combustible materials. If
 large quantities of the material are involved in the fire or the combustible
 material is finely divided an explosion may result. Prolonged exposure
 of the material to fire or heat may result in an explosion.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
Personnel protection
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 2500 feet

MAGNESIUM PEROXIDE, SOLID 4918730
OXIDIZER UN1476

Magnesium peroxide is a white powder. it is used in medicine, and
 as a bleaching agent. It is insoluble in water and slowly decomposed
 by water. It is noncombustible but it will accelerate the burning of com-
 bustible material, if the combustible material is finely divided the mixture
 may be explosive. Mixtures of combustible material and the peroxide
 can be ignited by friction or contact with moisture.

If material on fire or involved in fire
 Flood with water
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Personnel protection
Avoid breathing dusts
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 2500 feet

MAGNESIUM SCRAP (BORINGS, CLIPPINGS, SHAVINGS, SHEET, TURNINGS, OR SCALPINGS) 4916436
FLAMMABLE SOLID NA1869
WATER REACTIVE
Magnesium scrap is a silvery colored metal. The more finely divided forms react with water to liberate hydrogen, a flammable gas, though not as vigorously as lithium or sodium. The thinner pieces are easily ignited and burn with an intense white flame.
If material on fire or involved in fire
Do not use water
Use graphite, soda ash, powdered sodium chloride, or suitable dry powder
If material not on fire and not involved in fire
Do not use water
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry
Personnel protection
Wear boots, protective gloves, and goggles

MAGNESIUM, METAL (POWDERED, PELLETS, TURNINGS OR RIBBONS) 4916435
FLAMMABLE SOLID UN1869
WATER REACTIVE
Magnesium, metal (powdered, pellets, turnings, or ribbons) is a light silvery colored metal. The more finely divided material reacts with water to liberate hydrogen, a flammable gas, though this reaction is not as vigorous as that of sodium or lithium with water. In finely divided forms it is easily ignited and burns with an intense white flame.
If material on fire or involved in fire
Do not use water
Use graphite, soda ash, powdered sodium chloride, or suitable dry powder
If material not on fire and not involved in fire
Do not use water
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry
Do not attempt to sweep up dry material
Personnel protection
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

MALATHION 494115F
ORM-A NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)
Malathion is a yellow liquid. It is used as an insecticide. It is combustible though it may take some effort to ignite. It is slightly soluble in water. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.
It weighs 10.3 pounds per gallon.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash or cement powder
Environmental considerations—water spill
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

MALEIC ACID 4941155
ORM-A NA2215
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
Maleic acid is a colorless crystalline solid having a faint odor. It is used to make other chemicals and for dyeing and finishing naturally occurring fibers. It is combustible though it may take some effort to ignite. It is soluble in water.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Solid streams of water may be ineffective
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Personnel protection
Avoid breathing vapors or dusts
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water
Environmental considerations—water spill
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and prec

MALEIC ANHYDRIDE 4941161
ORM-A UN2215
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Maleic anhydride is a colorless crystalline solid. It is used to make paints and plastics and other chemicals. It is combustible though it may take some effort to ignite. It is slowly decomposed by water to give maleic acid, another orm-a.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors or dusts
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

MANGANESE RESINATE, (FLAMMABLE SOLID, N.O.S.) 4916766
FLAMMABLE SOLID UN1325

Manganese resinate ranges from a dark brown-black solid mass to a light tan powder. It may spontaneously heat in the presence of air or moisture. This heat may be sufficient to ignite surrounding combustible materials. It is insoluble in water.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

MATCHES, SAFETY (BOOK, CARD OR STRIKE ON BOX) 4917356
FLAMMABLE SOLID UN1944

Matches, safety are strips of cardboard held together as an assembly, or wooden sticks having their ends dipped with a pyrotechnic mixture and requiring a specially treated surface for striking to cause ignition.

If material on fire or involved in fire

- Flood with water

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

Personnel protection

- Avoid breathing fumes from burning material

MATCHES, STRIKE ANYWHERE 4917336
FLAMMABLE SOLID UN1331

Matches, strike anywhere are wooden sticks with an end coated with a pyrotechnic composition that may be ignited by friction with almost any dry surface. Fires occurring in packages of these matches caused by internal friction between the matches or impact are usually contained in the package if it is not broken. If the matches have gotten wet and dried out they are more readily ignited.

If material on fire or involved in fire

- Flood with water

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away

Personnel protection

- Avoid breathing fumes from burning material

MEDICINES, N.O.S. 4917378
FLAMMABLE SOLID NA1325

Medicines, n.o.s. is the proper shipping name of any solid material, other than one classed as an explosive, or specifically listed by name in the list of hazardous materials which is liable under conditions incident to transportation to cause fires through friction, absorption of moisture, spontaneous chemical changes as a result of retained heat from the manufacturing or processing of the solid, or which can be readily ignited by external sparks or flame and when so ignited burns vigorously and persistently. Try to ascertain the exact name of the material.

If material on fire or involved in fire

- Extinguish fire using agent suitable for type of fire

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

MEDICINES, N.O.S. OXIDIZER 4918412
NA1479

Medicines, n.o.s. are various materials which have the property of accelerating the burning of combustible material. These materials may not burn by themselves. Prolonged exposure of these materials and/or their containers to fire or heat may result in an explosion. These materials may only be shipped in containers of 55 gallon capacity or less.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 1500 feet

MEDICINES, N.O.S. 4910193
FLAMMABLE LIQUID NA1993
 Medicines, n.o.s. are those medicines with the property of having a flash point of less than 100 deg. F. They are generally lighter than water and soluble in water. Their vapors are heavier than air
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

MEDICINES, N.O.S. 4915193
COMBUSTIBLE LIQUID UN1851
 Medicines, n.o.s. are those medicines with the property of having a flash point between 100 and 199 deg. F. They are generally lighter than water and soluble in water. Their vapors are heavier than air.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to disperse vapors and dilute standing pools of liquid
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

MEDICINES, N.O.S. (LIQUID) 4921426
POISON B NA2810
 Medicines, n.o.s. (liquid) are liquids or a solid dissolved in a liquid having the property of being toxic by ingestion, inhalation, or skin absorption. The liquid or solution may or may not burn depending on the nature of the material and/or the solvent of the solution.
If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective

Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors
Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

MEDICINES, N.O.S. (SOLID) 4921491
POISON B NA2811
 Medicines, n.o.s. (solid) are pure materials or mixtures of two or more solids or a liquid absorbed on a dry carrier. It has the property of being toxic by ingestion, inhalation (vapor dust, etc) or skin absorption.
If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

MEDICINES, N.O.S., LIQUID 4936583
CORROSIVE MATERIAL UN1851
 Medicines, n.o.s., liquid is the proper shipping name for various liquids having the property of being corrosive to steel or tissue. It may either be a simple liquid material or a solid dissolved in a solvent. It may be combustible though requiring some effort to ignite. They may or may not be water soluble.
If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Solid streams of water may be ineffective
 Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

MEDICINES, N.O.S., SOLID **4936584**
CORROSIVE MATERIAL **UN1851**
Medicines, n.o.s., solid is the proper shipping name for various colored solids having the property of being corrosive to tissue. They may or may not be water soluble.

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use dry chemical, carbon dioxide, or dry sand
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts, and fumes from burning material
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

MEMTETRAHYDROPHthalic ANHYDRIDE **4931441**
CORROSIVE MATERIAL **NA1760**
Memtetrahydrophthalic anhydride is a colorless to light yellow liquid. It is used to make plastics. It is soluble in water and decomposed by water to tetrahydrophthalic acid, which is also water soluble, with release of heat. It is corrosive to skin.

If material on fire or involved in fire
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Use water spray to absorb vapors
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

MERCAPTAN MIXTURE, ALIPHATIC **4913120**
COMBUSTIBLE LIQUID **NA1228**
Mercaptan mixture, aliphatic is a clear colorless to light yellow liquid with a very offensive odor. It has a flash point between 100 and 199 deg. F. It is lighter than water and very slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

MERCAPTAN MIXTURE, ALIPHATIC **4909220**
FLAMMABLE LIQUID **NA1228**
Mercaptan mixture, aliphatic is a clear colorless to light yellow liquid with a very offensive odor. It has a flash point of less than 100 deg.f. It is lighter than water and very slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

MERCAPTODIMETHUR **4962145**
ORM-E **NA2757**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Mercaptodimethur is a white crystalline powder. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

Continued on next page

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary

Personnel protection
 Keep upwind
 Wear boots, protective gloves, and goggles
 Avoid breathing vapors or dusts
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire
 fighting water

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount
 in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of
 pollutants and precipitates

MERCURIC ACETATE 4923241
POISON B UN1629

Mercuric acetate is a white crystalline solid with a vinegar like odor.
 It is soluble in water and is decomposed by water to form a white
 insoluble precipitate. It is toxic by inhalation (dust, etc.) and by ingestion.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
 If contact with the material anticipated, wear full protective clothing

MERCURIC BENZOATE, SOLID 4923243
POISON B UN1631

Mercuric benzoate, solid is a white crystalline solid. It is slightly soluble
 in water. It is toxic by inhalation (dust, etc.) and by ingestion.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
 If contact with the material anticipated, wear full protective clothing

MERCURIC BROMIDE, SOLID 4923244
POISON B UN1634

Mercuric bromide, solid is a white crystalline solid. It is very slightly
 soluble in water. It is toxic by inhalation (dust, etc.) and by ingestion.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
 If contact with the material anticipated, wear full protective clothing

MERCURIC CHLORIDE 4923245
POISON B UN1624

Mercuric chloride is a white crystalline solid. It is soluble in water. It
 is corrosive to the mucous membranes. It is toxic by inhalation (dust
 etc.) and ingestion.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with
 copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involv-
 ing this material
 If contact with the material anticipated, wear full protective clothing

MERCURIC CHLORIDE (MERCURIC CHLORIDE AND 4923271
CHARCOAL CATALYST, SPENT) UN1624

POISON B

Mercuric chloride and charcoal catalyst, spent is mercuric chloride
 deposited on a charcoal carrier base. The mercuric chloride is soluble
 in water. It is corrosive to the mucous membranes. It is toxic by ingestion,
 and inhalation (dusts, etc.).

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

MERCURIC CYANIDE, SOLID 4923246
POISON B UN1638
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Mercuric cyanide solid is a white crystalline solid. It is slightly soluble in water. It is gradually decomposed by water and rapidly decomposed by acids to give off hydrogen cyanide, a flammable poison gas. It is toxic by inhalation (dust, and the hydrogen cyanide from decomposition) and by ingestion. Toxic oxides of nitrogen are produced in fires involving this material.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing vapors or dusts
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

Add caustic soda
If dissolved, apply sodium sulfide solution to precipitate heavy metals
Add calcium hypochlorite
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Adjust ph to neutral (ph-7)
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

MERCURIC IODIDE, SOLID 4923247
POISON B UN1638

Mercuric iodide, solid is a red crystalline solid. It is very slightly soluble in water. It is toxic by inhalation (dusts, etc) and by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
Keep upwind

Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

MERCURIC IODIDE, SOLUTION 4923249
POISON B UN1638

Mercuric iodide, solution is a red liquid. It is slightly soluble in water. It is toxic by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing vapors or dusts
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

MERCURIC NITRATE 4918769
OXIDIZER UN1625
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)

Mercuric nitrate is a white crystalline solid. It is used to make other chemicals and in medicine. It is soluble in water. It is non-combustible, but it will accelerate the burning of combustible materials. If large quantities are involved in a fire or the combustible material is finely divided, an explosion may result. Prolonged exposure to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material.

If material on fire or involved in fire

Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection

Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation

If fire becomes uncontrollable—evacuate for a radius of 2500 feet

Environmental considerations—land spill

Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Continued on next page

Environmental considerations—water spill

- Add caustic soda
- If dissolved, apply sodium sulfide solution to precipitate heavy metals
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates
- Allow to aerate

**MERCURIC OLEATE, SOLID
POISON B**

**4923250
UN1640**

Mercuric oleate, solid is a yellowish-brown grease-like solid. It is insoluble in water. It is toxic by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**MERCURIC OXIDE, SOLID
POISON B**

**4923251
UN1641**

Mercuric oxide, solid is a red-orange powder. It is insoluble in water. It is toxic by inhalation (dust etc.) and by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**MERCURIC OXYCYANIDE, SOLID (DESENSITIZED)
POISON B**

**4923253
UN1642**

Mercuric oxycyanide, solid is a white crystalline solid. It is used in medicine. It is soluble in water. It can explode on prolonged exposure to fire or heat. It decomposes on contact with acid to give off hydrogen cyanide, a flammable poison gas. It is toxic by inhalation (dust and hydrogen cyanide from decomposition) and by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**MERCURIC SALICYLATE, SOLID
POISON B**

**4923255
UN1644**

Mercunc salicylate, solid is a white powder with a yellow or pink tint. It is insoluble in water. It is toxic by inhalation (dust, etc.) and by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

**MERCURIC SUBSULFATE, SOLID
POISON B**

**4923256
NA2025**

Mercuric subsulfate, solid is a lemon yellow powder or a yellow scaley material. It is insoluble in water. It is toxic by inhalation (dust, etc.) and by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

MERCURIC SULFATE, SOLID 4923257
POISON B UN1645
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)
 Mercuric sulfate, solid is a white crystalline powder. It is used in medicine, for gold and silver extraction, and to make other mercury compounds. It is decomposed by water to yellow mercuric subsulfate and free sulfuric acid, a corrosive material. It is toxic by inhalation (dust) and by ingestion.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Add caustic soda
 If dissolved, apply sodium sulfide solution to precipitate heavy metals
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Allow to aerate
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

MERCURIC SULFO CYANATE, SOLID (OR) MERCURIC 4923258
THIOCYANATE
POISON B UN1646
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)
 Mercuric sulfo cyanate is a white crystalline powder. It is very slightly soluble in water. When heated or burned it expands to many times in volume. It is toxic by inhalation (dust) and by ingestion.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Add caustic soda
 If dissolved, apply sodium sulfide solution to precipitate heavy metals
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Allow to aerate
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

MERCURIC-AMMONIUM CHLORIDE, SOLID 4923242
POISON B UN1630
 Mercuric-ammonium chloride is a white crystalline solid. It is soluble in water. It is corrosive to the mucous membranes. It is toxic by inhalation (dust, etc.) and by ingestion.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

MERCURIC-POTASSIUM CYANIDE, SOLID 4923254
POISON B UN1626
 Mercuric—potassium cyanide solid is a colorless crystalline solid. It is soluble in water. It is rapidly decomposed by acids to give off hydrogen cyanide, a flammable poison gas. It is toxic by inhalation (dust, and the hydrogen cyanide from decomposition) and by ingestion. Toxic oxides of nitrogen are produced in fires involving this material.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use foam, carbon dioxide or dry chemical
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
 Use water spray to absorb vapors

If material not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Do not use water on material itself

Personnel protection
 Avoid breathing vapors or dusts
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing

MERCURIC-POTASSIUM IODIDE, SOLID **4923272**
POISON B **UN1643**
Mercuric-potassium iodide, solid is a yellow crystalline solid. It absorbs water from the air and dissolves in it. It is soluble in water. It is toxic by ingestion.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical
If material not involved in fire
Keep material out of water sources and sewers
Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

MERCUROL OR MERCURY NUCLEATE, SOLID **4923259**
POISON B **UN1639**
Mercuriol is a brown powder containing a mercury compound. It is soluble in water. It is toxic by inhalation (vapor, dust, etc) and by skin absorption.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical
If material not involved in fire
Keep material out of water sources and sewers
Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

MERCUROUS ACETATE, SOLID **4923266**
POISON B **UN1629**
Mercurous acetate, solid is a white crystalline solid with a vinegar like odor. It is soluble in water and is decomposed to white insoluble precipitate. It is toxic by ingestion and by inhalation (dusts, etc).
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical
If material not involved in fire
Keep material out of water sources and sewers
Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment

Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

MERCUROUS BROMIDE, SOLID **4923260**
POISON B **UN1634**
Mercurous bromide, solid is a white powder darkening on exposure to light. It is insoluble in water. It is toxic by inhalation (dust, etc) and by ingestion.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical
If material not involved in fire
Keep material out of water sources and sewers
Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

MERCUROUS GLUCONATE, SOLID **4923261**
POISON B **UN1637**
Mercurous gluconate, solid is a white powder. It is slightly soluble in water. It is toxic by inhalation (dust, etc.) and by ingestion.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical
If material not involved in fire
Keep material out of water sources and sewers
Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing

MERCUROUS IODIDE, SOLID **4923262**
POISON B **UN1638**
Mercurous iodide, solid is a light yellow powder. It is insoluble in water. It is toxic by inhalation (dust, etc.) and by ingestion.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical
If material not involved in fire
Keep material out of water sources and sewers

MCD 000017255

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

MERCUROUS NITRATE, SOLID 4918752
OXIDIZER, POISONOUS UN1627
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-10/4.54)

Mercurous nitrate, solid is a colorless crystalline material with a faint odor of nitric acid. it is used in medicine and in chemical analysis. It darkens on exposure to light. It is slightly soluble in water and decomposes to a white insoluble precipitate. It will accelerate the burning of combustible material. It is toxic by ingestion or inhalation of dusts. toxic oxides of nitrogen are produced in fires involving this material.

If material on fire or involved in fire

- Flood with water
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers

Personnel protection

- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable—evacuate for a radius of 1500 feet

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill

- Add caustic soda
- If dissolved, apply sodium sulfide solution to precipitate heavy metals
- Allow to aerate
- If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
- Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

MERCUROUS OXIDE, BLACK, SOLID 4923264
POISON B UN1641

Mercurous oxide, black, solid is a black powder. It is decomposed by light to free mercury and mercuric oxide. It is insoluble in water. It is toxic by inhalation (dust, etc) and by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

MERCUROUS SULFATE, SOLID 4923265
POISON B UN1628

Mercurous sulfate, solid is a white to yellow crystalline powder. It is insoluble in water. It is toxic by inhalation (dust, etc) and by ingestion.

If material involved in fire

- Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
- Use water in flooding quantities as fog
- Use foam, carbon dioxide or dry chemical

If material not involved in fire

- Keep material out of water sources and sewers

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

MERCURY BASED PESTICIDE, LIQUID, N.O.S. 4921651
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)

POISON B

UN2777

Mercury based pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may take some effort to ignite. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

MERCURY BASED PESTICIDE, LIQUID, N.O.S. 4921652
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, LIQUID)
POISON B UN2777

Mercury based pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may take some effort to ignite. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

MERCURY BASED PESTICIDE, LIQUID, N.O.S. 4910537
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)
FLAMMABLE LIQUID UN2778

Mercury based pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wear self-contained breathing apparatus when fighting fires involving this material

MERCURY BASED PESTICIDE, LIQUID, N.O.S. 4910538
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, LIQUID)
FLAMMABLE LIQUID UN2778

Mercury based pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard of this material is the flammability of the carrier. It has a flash point below 100 deg. F. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wear self-contained breathing apparatus when fighting fires involving this material

MERCURY BASED PESTICIDE, SOLID, N.O.S. 4921653
(COMPOUNDS AND PREPARATIONS)
(INSECTICIDES, OTHER THAN AGRICULTURAL, NEC)
POISON B UN2777

Mercury based pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

MERCURY BASED PESTICIDE, SOLID, N.O.S. 4921654
(COMPOUNDS AND PREPARATIONS)
(AGRICULTURAL INSECTICIDES, NEC, OTHER
THAN LIQUID)

POISON B UN2777

Mercury based pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

MERCURY COMPOUND, SOLID, N.O.S. 4923269
POISON B UN2025

Mercury compound, solid, n.o.s. is a various colored crystalline material containing mercury. It may or may not be water soluble. It is toxic by inhalation (dust) or by ingestion.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use foam, carbon dioxide or dry chemical

If material not involved in fire

Keep material out of water sources and sewers

Personnel protection

Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

MESITYL OXIDE 4909223
FLAMMABLE LIQUID UN1229

Mesityl oxide is a colorless, oily liquid with a pungent honey-like odor. It is used in paint removers, as a solvent for plastics, and as an insect repellent. It has a flash point of 87 deg. F. It is lighter than water and is slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

METAL ALKYL, SOLUTION, N.O.S. 4906030
FLAMMABLE LIQUID NA9195
PYROFORIC

Metal alkyl, solution, n.o.s. is a material whose principal property is that of igniting spontaneously in contact with moist air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
 Do not use water
 Use graphite, soda ash or powdered sodium chloride

If material not on fire and not involved in fire

Do not use water
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep material dry

Personnel protection

Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

METAL ALLOY BILLETS, BLOOMS, INGOTS, PIGS, 4926488
SPONGE OR SHOT, NEC, NOT IRRADIATED NOR
REQUIRING PROTECTIVE SHIELDING
(RADIOACTIVE MATERIAL, N.O.S.)

RADIOACTIVE MATERIAL UN2912
 Metal alloy billets, blooms, ingots, pigs, sponge or shot are greyish to silvery colored materials.

Radioactive materials emit certain rays that may be hazardous. These rays can be detected only by instruments. Exposure of humans to intense radiation may be harmful, whereas film may be damaged by radiation from relatively low concentrations.

If material on fire or involved in fire

Contact the local, state, or department of energy radiological response team
 Extinguish fire using agent suitable for type of surrounding fire
 (Material itself does not burn or burns with difficulty.)
 Use graphite, soda ash, powdered sodium chloride, or suitable dry powder

Continued on next page

If material not on fire and not involved in fire
 Contact the local, state, or department of energy radiological response team
 Do not use water
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Keep material dry
 Do not attempt to sweep up dry material

Personnel protection
 Keep upwind
 Avoid breathing dusts, and fumes from burning material
 Wear full protective clothing
 Wear self-contained breathing apparatus
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 Keep unnecessary people out of incident area until area declared safe by radiological response team

METAL OR METAL ALLOY BILLETS, BLOOMS, 4926489
INGOTS, PIGS, SPONGE, OR SHOT, NOT
IRRADIATED NOR REQUIRING PROTECTIVE
SHIELDING (RADIOACTIVE MATERIAL, LOW
SPECIFIC ACTIVITY OR LSA, N.O.S.)

RADIOACTIVE MATERIAL UN2912
 Metal or metal alloy billets, blooms, ingots, pigs, sponge, or shot is greyish to silvery colored material.
 Radioactive materials emit certain rays that may be hazardous. These rays can be detected only by instruments. Exposure of humans to intense radiation may be harmful whereas films may be damaged by radiation from relatively low concentrations.

If material on fire or involved in fire
 Contact the local, state, or department of energy radiological response team
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use graphite, soda ash, powdered sodium chloride, or suitable dry powder

If material not on fire and not involved in fire
 Contact the local, state, or department of energy radiological response team
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Keep upwind
 Avoid breathing dusts, and fumes from burning material
 Wear full protective clothing
 Wear self-contained breathing apparatus
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 Keep unnecessary people out of incident area until area declared safe by radiological response team

METHACRYLIC ACID, GLACIAL (CORROSIVE LIQUID, 4931402
N.O.S.)
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN1760
 Methacrylic acid, glacial is a clear colorless liquid having a pungent odor. It is used to make plastics. it is corrosive to metals and tissue. it is also combustible and has a flash point of 154 deg. f, and a melting point of 61 deg. F. If the material becomes contaminated or is subject to heat, it may polymerize. If the polymerization takes place inside a container, the container may violently rupture. It is lighter than water and is soluble in water. its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical
 Use water spray to absorb vapors

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Use water spray to knock-down vapors
 Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 If contact with the material anticipated, wear full protective clothing
 Approach fire with caution

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet

METHALLYL CHLORIDE (FLAMMABLE LIQUID, 4908223
N.O.S.)
FLAMMABLE LIQUID UN1993

Methallyl chloride is a colorless to straw colored liquid with a sharp penetrating odor. It has a flash point of 11 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

METHANE 4905755
FLAMMABLE GAS UN1971

Methane is a colorless odorless gas. It is easily ignited. It may only be shipped in cylinders. The gas is lighter than air but a flame may flash back to the source of a leak very easily. Under fire conditions the cylinders may violently rupture and rocket.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear protective gloves and goggles
- Do not handle broken packages without protective equipment
- Approach fire with caution

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

METHANOL (METHYL ALCOHOL, COLUMBIAN SPIRITS) 4909230
FLAMMABLE LIQUID UN1230

Methanol is a clear colorless liquid. It is used to make other chemicals, to remove water from automotive and aviation fuels, as an antifreeze, and as a solvent for various paints and plastics. It has a flash point of 52 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHANOL, CONTAMINATED, VALUE ONLY FOR REFINING (ALCOHOL, N.O.S.) 4909237
FLAMMABLE LIQUID UN1987

Methanol, contaminated is a clear colorless to variable colored liquid. It has a flash point of 52 deg. F. which may vary depending on contamination. It is lighter than water and may not be completely water soluble. (methanol itself is water soluble.) its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
 - Use water in flooding quantities as fog
 - Solid streams of water may be ineffective
 - Cool all affected containers with flooding quantities of water
 - Apply water from as far a distance as possible
 - Use "alcohol" foam, carbon dioxide or dry chemical
- If material not on fire and not involved in fire**
- Keep sparks, flames, and other sources of ignition away
 - Keep material out of water sources and sewers
 - Build dikes to contain flow as necessary
 - Attempt to stop leak if without hazard
 - Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHANOL, SOLIDIFIED (ALCOHOL, N.O.S.) 4910404
FLAMMABLE LIQUID UN1987

Methanol, solidified is a sterno-like gel. The alcohol can separate out. The hazard is flammability.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHYL CHLOROCARBONATE (see METHYL CHLOROFORMATE 4907429)

METHYLETHANOLAMINE (COMBUSTIBLE LIQUID, N.O.S.) 4913183
COMBUSTIBLE LIQUID NA1933

Methylethanolamine is a clear colorless liquid. It is used to make other chemicals. It has a flash point of 165 deg. F. It is lighter than water and is soluble in water. Its vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material

METHOXYCHLOR (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4960646

ORM-E NA2761 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Methoxychlor is a white crystalline solid dissolved in a liquid carrier. It is used as a pesticide. It is a water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
Use natural barriers or oil spill control booms to limit spill motion
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

METHOXYCHLOR (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4960647

ORM-E NA2761 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Methoxychlor is a white crystalline solid. It is used as a pesticide. It is a wettable powder. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

METHOXYCHLOR (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4960648

ORM-E NA2761 ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)

Methoxychlor is a white crystalline solid or the solid dissolved in a liquid carrier. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)

If material not involved in fire
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Personnel protection
Keep upwind
Wear boots, protective gloves, and goggles
Avoid breathing vapors or dusts
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

METHYL ACETATE FLAMMABLE LIQUID 4908220 UN1231

Methyl acetate is a clear colorless liquid with a fragrant odor. It has a flash point of 14 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

METHYL ACETOACETATE (COMBUSTIBLE LIQUID, N.O.S.) 4913150

COMBUSTIBLE LIQUID NA1993

Methyl acetoacetate is a clear colorless liquid. It has a flash point of 158 deg. F. It is heavier than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHYL ACETONE 4909238
FLAMMABLE LIQUID UN1232

Methyl acetone is a clear colorless liquid composed of acetone, methyl acetate and methanol. It has a flash point of less than 52 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHYL AMYL ACETATE 4909235
FLAMMABLE LIQUID UN1233

Methyl amyl acetate is a clear colorless liquid. It has a flash point of 95 deg. F. It is lighter than water and is insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHYL AMYL KETONE 4913132
COMBUSTIBLE LIQUID UN1110

Methyl amyl ketone is a clear colorless liquid. It has a flash point of 126 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHYL BROMIDE AND ETHYLENE DIBROMIDE 4921438
MIXTURE, LIQUID

POISON B UN1647
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)

Methyl bromide and ethylene dibromide mixture, liquid is the mixture of two liquids having a chloroform like odor. Neither material is combustible. Both are very slightly soluble in water. The mixture is toxic by inhalation and skin absorption.

It weighs 18.0 pounds per gallon.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Continued on next page

MCD 000017262

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

METHYL BROMIDE AND MORE THAN 2% CHLOROPICRIN MIXTURE, LIQUID 4921437
POISON B NA1581
 Methyl bromide and more than 2% chloropicrin mixture, liquid is a mixture of two liquids. Neither is combustible or water soluble. They are toxic by inhalation. Prolonged or repeated skin contact can cause severe burns and possible absorption of toxic quantities of the material.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

METHYL BROMIDE AND NONFLAMMABLE NONLIQUEFIED COMPRESSED GAS MIXTURE, LIQUID 4921439
POISON B NA1955
 Methyl bromide and nonflammable nonliquefied compressed gas mixture, liquid is a liquid charged with a gas. It is non-combustible and has a chloroform-like odor. It is very slightly soluble in water. It is toxic by inhalation.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

METHYL BROMIDE, LIQUID (INCLUDING UP TO 2% CHLOROPICRIN) 4921440
POISON B UN1062
 Methyl bromide is colorless liquid with a chloroform-like odor. Under most circumstances it is non-combustible. It is very slightly soluble in water. It is toxic by inhalation. Prolonged or repeated skin contact can cause severe burns and possible absorption of toxic quantities of the material.

If material involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Cool all affected containers with flooding quantities of water
 Use foam, carbon dioxide or dry chemical

If material not involved in fire
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

METHYL BUTENE FLAMMABLE LIQUID 4909225
 UN2460
 Methyl butene is a clear colorless liquid with a petroleum like odor. It has a flash point of less than 20 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHYL BUTYL KETONE (FLAMMABLE LIQUID, N.O.S.) 4909242

FLAMMABLE LIQUID UN1993
Methyl butyl ketone is a clear colorless liquid. It has a flash point of 95 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHYL BUTYRATE 4909226

FLAMMABLE LIQUID UN1237
Methyl butyrate is a clear colorless liquid. It has a flash point of 37 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHYL CHLORIDE 4905761

FLAMMABLE GAS UN1063
Methyl chloride is a colorless gas with a faint sweet odor. It is used to make other chemicals and as a herbicide. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air, and a flame can flash back to the source of leak very easily. The leak can be either a liquid or vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinder or tank car may violently rupture and rocket.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

METHYL CHLORIDE-METHYLENE CHLORIDE 4905764

MIXTURE UN1912

FLAMMABLE GAS
Methyl chloride-methylene chloride is a colorless gas with a faint sweet odor. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air and a flame can flash back to the source of leak very easily. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may violently rupture or rocket.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

METHYL CHLOROFORMATE 4907429
FLAMMABLE LIQUID, CORROSIVE UN1238

Methyl chloroformate is a colorless liquid with a pungent odor. It has a flash point of 54 deg. F. It is slightly soluble in water and decomposed by water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use "alcohol" foam, carbon dioxide or dry chemical
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

METHYL DICHLOROACETATE 4933350
CORROSIVE MATERIAL, ACIDIC, COMBUSTIBLE UN2299

Methyl dichloroacetate is a colorless liquid with an ethereal odor. It is used to make other chemicals. It is combustible and has a flash point of 176 deg. F. It is decomposed by water to dichloroacetic acid, a corrosive material with evolution of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire

- Use dry chemical, carbon dioxide, or dry sand
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

METHYL ETHYL KETONE (ETHYL METHYL KETONE) 4909243
FLAMMABLE LIQUID UN1193

Methyl ethyl ketone is a clear colorless liquid with an acetone-like odor. It is used as a solvent for paints, plastics, and adhesives. It has a flash point of 21 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHYL ETHYL KETONE PEROXIDE, (IN SOLUTION WITH NOT MORE THAN 9% BY WEIGHT ACTIVE OXYGEN) 4919178

ORGANIC PEROXIDE UN2550

Methyl ethyl ketone peroxide, (in solution with not more than 9% by weight active oxygen) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is insoluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing
- Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

MCD 000017265

METHYL ETHYL PYRIDINE 4935660
CORROSIVE MATERIAL, BASIC, COMBUSTIBLE UN2300

Methyl ethyl pyridine is a colorless liquid with a sharp penetrating odor. It is combustible and has a flash point of 165 deg. F. It is slightly soluble in water. It is corrosive to metals and tissue. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Solid streams of water may be ineffective
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material
- If contact with the material anticipated, wear full protective clothing

METHYL FORMATE 4908225
FLAMMABLE LIQUID UN1243

Methyl formate is a clear colorless liquid with an agreeable odor. It has a flash point of -27 deg. F. It is lighter than water and reacts with water to give formic acid, a corrosive material and methyl alcohol, another flammable liquid. Both of these materials are soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use "alcohol" foam, carbon dioxide or dry chemical
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Do not use water on material itself

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

METHYL HYDRAZINE 4906230
FLAMMABLE LIQUID, POISONOUS, CORROSIVE UN1244
THERMALLY UNSTABLE

Methyl hydrazine is a colorless liquid with an ammonia-like odor. It is used to make other chemicals, as a solvent, and as a rocket propellant. It has a flash point of 17 deg. F. It is flammable over a wide range of vapor air concentrations. It may ignite spontaneously in contact with porous materials such as earth, wood, cloth, etc., and with oxidizing materials. It is toxic and the vapors attack the eyes and respiratory system. It is also corrosive to the skin. It is lighter than water and slightly soluble in water. The vapors are heavier than air. Prolonged exposure of the containers of the material to fire or heat may result in the spontaneous decomposition of the material and violent rupture of the container. Toxic oxides of nitrogen are produced during combustion of this material.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 5000 feet
- If material leaking (not on fire), downwind evacuation must be considered

METHYL ISOBUTYL CARBINOL (COMBUSTIBLE 4913143
LIQUID, N.O.S.) UN1987
COMBUSTIBLE LIQUID

Methyl isobutyl carbinol is a clear colorless liquid. It has a flash point of 120 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to disperse vapors and dilute standing pools of liquid

Continued on next page

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHYL ISOBUTYL KETONE (FLAMMABLE LIQUID, N.O.S.) 4909245

FLAMMABLE LIQUID UN1993

Methyl isobutyl ketone is a clear colorless liquid with a pleasant odor. It has a flash point of 73 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHYL ISOBUTYL KETONE PEROXIDE, (IN SOLUTION WITH NOT MORE THAN 9% BY WEIGHT ACTIVE OXYGEN) 4919180

ORGANIC PEROXIDE UN2126

Methyl isobutyl ketone peroxide, (in solution with not more than 9% by weight active oxygen) is a colorless to pale yellow liquid. It is used to manufacture paints, plastics, and rubber. It is slightly soluble in water. The liquid or solution may require some effort to ignite; but once ignited, it will burn with increasing rapidity as the fire progresses. If spilled on combustible materials, spontaneous ignition of the material may occur. Contamination with many chemical substances can cause a violent chemical reaction. It supports the burning of combustible materials. Under prolonged exposure to fire or heat containers of the material may explode.

If material on fire or involved in fire

- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical
- Dangerously explosive

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Keep spilled material wet
- Wet spilled material before picking it up

Personnel protection

- Avoid breathing dusts, and fumes from burning material
- Avoid bodily contact with the material
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment

- Wash away any material which may have contacted the body with copious amounts of water or soap and water
- Wear self-contained breathing apparatus when fighting fires involving this material

If contact with the material anticipated, wear full protective clothing

Approach fire with caution

Evacuation

- If the material is on fire or involved in fire evacuate for a radius of 2500 feet

METHYL ISOPROPENYL KETONE, INHIBITED FLAMMABLE LIQUID 4907240

POLYMERIZATION UN1246

Methyl isopropenyl ketone is a clear colorless liquid. It has a flash point of 52 deg. F. If contaminated or subjected to heat it may polymerize if methyl isopropenyl ketone is confined in a container when polymerization takes place the container may violently rupture. It is heavier than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
- If material leaking (not on fire), downwind evacuation must be considered

METHYL MAGNESIUM BROMIDE IN ETHYL ETHER 4908230

FLAMMABLE LIQUID UN1928

This is the solution of methyl magnesium bromide in ethyl ether. Ethyl ether has a flash point of -49 deg. F. The solution reacts with water to give methane, a flammable gas. The heat of this reaction may be sufficient to ignite the methane. The vapors of ethyl ether are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use "alcohol" foam, carbon dioxide or dry chemical
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Do not use water on material itself

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Use water spray to knock-down vapors
- Do not use water on material itself

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

METHYL MERCAPTAN 4905520
FLAMMABLE GAS, CORROSIVE UN1064
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Methyl mercaptan is a colorless gas with a very strong disagreeable odor of rotten cabbage. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite or chemical type burn. It is slightly soluble in water. It is easily ignited. Its vapor is heavier than air and a flame can flash back to the source of leak very easily. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may violently rupture and rocket.
It weighs 7.3 pounds per gallon.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Approach fire with caution

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
Use natural barriers or oil spill control booms to limit spill motion
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
Apply water spray or mist to knock down vapors

METHYL METHACRYLATE MONOMER, INHIBITED 4907250
FLAMMABLE LIQUID UN1247
POLYMERIZABLE
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)
Methyl methacrylate monomer is a clear colorless liquid. It is used to make plastics. It has a flash point of 50 deg. F. The vapors are irritating to the eyes and respiratory system. If contaminated or subjected to heat, it may polymerize. If the polymerization takes place in a container, the container is subject to violent rupture. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.
It weighs 7.8 pounds per gallon.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents
Apply "universal" gelling agent to immobilize spill
Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill
Use natural barriers or oil spill control booms to limit spill motion
Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
Apply water spray or mist to knock down vapors

METHYL METHOXY PENTANONE (COMBUSTIBLE 4913138
LIQUID, N.O.S.)
COMBUSTIBLE LIQUID NA1993
Methyl methoxy pentanone is a clear colorless liquid. It is used as a solvent. It has a flash point of 141 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

Continued on next page

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHYL NORBORNENE DICARBOXYLIC ANHYDRIDE
(See MEMTETRAHYDRO PHTHALIC ANHYDRIDE
4931441)

METHYL PARATHION MIXTURE, DRY 4921443
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Methyl parathion mixture, dry is the liquid material absorbed on a dry carrier. Methyl parathion is very slightly soluble in water. Methyl parathion is a combustible liquid but the combustibility depends on the nature of the carrier and quantity of methyl parathion. It is toxic by skin absorption and inhalation (vapor, dust, etc.) in case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300

If material on fire or involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers

Personnel protection
Avoid breathing dusts, and fumes from burning material
Keep upwind
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

METHYL PARATHION MIXTURE, LIQUID (CONTAINING 25% OR LESS METHYL PARATHION) 4921444
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Methyl parathion mixture, liquid is the solution of methyl parathion and a liquid or solid dissolved in it. Methyl parathion is slightly soluble in water and is itself a combustible liquid. The combustibility of the mixture depends upon the nature of the other material dissolved in the solution. It is toxic by inhalation and by skin absorption. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill
Dig a pit, pond, lagoon, holding area to contain liquid or solid material
Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
Use natural barriers or oil spill control booms to limit spill motion
Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
Remove trapped material with suction hoses
Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
Apply water spray or mist to knock down vapors

METHYL PARATHION MIXTURE, LIQUID (CONTAINING OVER 25% METHYL PARATHION) 4921447
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)
Methyl parathion mixture, liquid is the solution of methyl parathion and a liquid or solid dissolved in it. Methyl parathion is slightly soluble in water and is itself a combustible liquid. The combustibility of the mixture depends upon the nature of the other material dissolved in the solution. It is toxic by inhalation and by skin absorption. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300

MCD 000017259

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 Use natural barriers or oil spill control booms to limit spill motion
 Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
 Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Remove trapped material with suction hoses
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

METHYL PENTADIENE 4908173
FLAMMABLE LIQUID UN2461

Methyl pentadiene is a clear colorless liquid with a petroleum like odor. It has a flash point of -30 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

METHYL PENTANE 4908191
FLAMMABLE LIQUID UN2462

Methyl pentane is a clear colorless liquid with a petroleum like odor. It has a flash point of -10 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may spread fire
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
 If material leaking (not on fire), downwind evacuation must be considered

METHYL PHOSPHONOTHIOIC DICHLORIDE, 4933336
ANHYDROUS

CORROSIVE MATERIAL, POISONOUS NA1760

Methyl phosphonothioic dichloride, anhydrous is a colorless liquid with a pungent odor. It is noncombustible. It is toxic by inhalation. It is heavier than water and reacts with water to give hydrochloric acid, a corrosive material, with release of heat. It is corrosive to metals and tissue.

If material on fire or involved in fire
 Use "alcohol" foam, carbon dioxide or dry chemical
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Do not use water on material itself
 If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
 Use water spray to absorb vapors

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors
 Do not use water on material itself
 Neutralize spilled material with crushed limestone, soda ash, or lime

Continued on next page

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**METHYL PHOSPHONOUS DICHLORIDE
CORROSIVE MATERIAL
PYROFORIC**

**4933337
NA2845**

Methyl phosphonous dichloride is a colorless liquid with a pungent odor. It is pyroforic and will spontaneously ignite on contact with moist air or water. It is heavier than water and besides igniting on contact with water hydrochloric acid, a corrosive material, is produced. It is corrosive to metals and tissue.

If material on fire or involved in fire

- Use "alcohol" foam, carbon dioxide or dry chemical
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**METHYL PROPIONATE
FLAMMABLE LIQUID**

**4909240
UN1248**

Methyl propionate is a clear colorless liquid. It is used as a flavoring and as a solvent. It has a flash point of 28 deg. F. It is lighter than water and is slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**METHYL PROPYL KETONE
FLAMMABLE LIQUID**

**4909216
UN1249**

Methyl propyl ketone is a clear colorless liquid with an odor of fingernail polish. It has a flash point of 45 deg. F. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

**METHYL SULFATE (See DIMETHYL SULFATE 4933322)
METHYL SULFIDE (See DIMETHYL SULFIDE 4908122)**

**METHYL VINYL KETONE, INHIBITED
FLAMMABLE LIQUID
POLYMERIZABLE**

**4907260
UN1251**

Methyl vinyl ketone is a clear colorless liquid. It has a flash point of 20 deg. F. If contaminated or subjected to heat it may polymerize. If the polymerization takes place in a container, the container may violently rupture. It is lighter than water and soluble in water. Its vapors are heavier than air. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may be ineffective
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

N-METHYL-N'-NITRO-N-NITROSOGUANIDINE 4916723
FLAMMABLE SOLID UN1325

N-methyl-n'-nitro-nitrosoguanidine

If material on fire or involved in fire

Flood with water

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Keep material dry

Personnel protection

Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material

METHYLACETYLENE-PROPADIENE, STABILIZED 4905758
FLAMMABLE GAS UN1060

Methylacetylene-propadiene stabilized is a colorless gas with an acetylene like odor. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air and a flame can flash back to the source of leak very easily. This leak may be either a liquid or a vapor leak. It can asphyxiate by the displacement of air. Under fire conditions the cylinders or tank cars may violently rupture and rocket.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment
Approach fire with caution

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

METHYLACRYLATE, INHIBITED 4907245
FLAMMABLE LIQUID UN1919
POLYMERIZABLE

Methyl acrylate is a clear colorless liquid with an acrid odor. It has a flash point of 27 deg. F. The vapors are irritating to the eyes and respiratory system. If the material is subjected to heat for prolonged periods or becomes contaminated, it is subject to polymerization with evolution of heat. If the polymerization takes place inside a container, the container may violently rupture. The material is lighter than water and is slightly soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 2500 feet
If material leaking (not on fire), downwind evacuation must be considered

METHYLAL 4908222
FLAMMABLE LIQUID UN1234

Methylal is a clear colorless liquid with a chloroform-like odor. It has a flash point of 0 deg. F. It is lighter than water and soluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection

Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

METHYLCHLOROMETHYL ETHER, ANHYDROUS 4907430
FLAMMABLE LIQUID, POISONOUS UN1239

Methylchloromethyl ether is a clear colorless liquid. It has a flash point of -4 deg. F. It is irritating to the eyes and respiratory system. Prolonged exposure to its vapors may result in death. It is heavier than water and is decomposed by water to form hydrochloric acid, a corrosive material. Its vapors are heavier than air.

Continued on next page

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to disperse vapors and dilute standing pools of liquid

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

METHYLCYCLOHEXANE **4909330**
FLAMMABLE LIQUID **UN2296**
Methyl cyclohexane is a clear colorless liquid with a petroleum like odor. It has a flash point of 25 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use water in flooding quantities as fog
Solid streams of water may spread fire
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

METHYLDICHLOROARSINE **4920520**
POISON A **NA1556**
Methyldichloroarsine is a colorless liquid with a strong burning odor. In low concentrations it is very irritating to the respiratory system and in higher concentrations or prolonged exposure to low concentrations it is toxic by inhalation. Contact with the liquid will cause very painful burns. The material may only be shipped in cylinders and these must be overpacked in wooden boxes. Prolonged exposure to fire or heat may cause the cylinders to violently rupture and rocket

If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Use water in flooding quantities as fog
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical

If material not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Attempt to stop leak if without hazard
Use water spray to knock-down vapors

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If material leaking (not on fire), downwind evacuation must be considered

METHYLDICHLOROSILANE **4907625**
FLAMMABLE LIQUID, CORROSIVE, ACIDIC **UN1242**
Methyldichlorosilane is a colorless fuming liquid with a pungent odor. It has a flash point of -26 deg. F. Vapor and liquid can cause burns. It is heavier than water and is decomposed by water to form hydrochloric acid, a corrosive material. Its vapors are heavier than air.

If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use "alcohol" foam, carbon dioxide or dry chemical
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors

If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

METHYLFURAN **4908210**
FLAMMABLE LIQUID **UN2301**
Methylfuran is a clear colorless liquid with an ether like odor. It has a flash point of -22 deg. F. It is lighter than water and insoluble in water. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

**METHYLMETHACRYLATE MONOMER, UNINHIBITED 4907255
FLAMMABLE LIQUID NA1247
POLYMERIZABLE**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-5000/2270)

Methyl methacrylate monomer, uninhibited is a clear colorless liquid. It is used to make plastics. It has a flash point of 50 deg. F. The vapors are irritating to the eyes and respiratory system. Containers of the material must be shipped under refrigeration, or the chilled material may be shipped in heavily insulated containers. If the material becomes contaminated or the chilled material warms up, it may polymerize. If the polymerization takes place inside a container, the container is subject to violent rupture. It is lighter than water and slightly soluble in water. Its vapors are heavier than air.

It weighs 7.8 pounds per gallon.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use water in flooding quantities as fog
- Solid streams of water may spread fire
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors

Personnel protection

- Avoid breathing vapors
- Keep upwind
- Wear boots, protective gloves, and goggles
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill

- Dig a pit, pond, lagoon, holding area to contain liquid or solid material
- Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete

Absorb bulk liquid with fly ash, cement powder, sawdust, or commercial sorbents

Apply "universal" gelling agent to immobilize spill

Apply fluorocarbon-water foam to diminish vapor and fire hazard

Environmental considerations—water spill

Use natural barriers or oil spill control booms to limit spill motion

Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material

Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms

If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration

Remove trapped material with suction hoses

Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill

Apply water spray or mist to knock down vapors

**METHYLTRICHLOROSILANE 4907630
FLAMMABLE LIQUID, CORROSIVE, ACIDIC UN1250**

Methyltrichlorosilane is a colorless fuming liquid with a pungent odor. It has a flash point of 8 deg. F. Vapor and liquid can cause burns. It is heavier than water and is decomposed by water to form hydrochloric acid, a corrosive material. Its vapors are heavier than air.

If material on fire or involved in fire

- Do not extinguish fire unless flow can be stopped
- Use "alcohol" foam, carbon dioxide or dry chemical
- Cool all affected containers with flooding quantities of water
- Apply water from as far a distance as possible
- Do not use water on material itself
- If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
- Use water spray to absorb vapors

If material not on fire and not involved in fire

- Keep sparks, flames, and other sources of ignition away
- Keep material out of water sources and sewers
- Build dikes to contain flow as necessary
- Attempt to stop leak if without hazard
- Use water spray to knock-down vapors
- Do not use water on material itself
- Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

- Keep upwind
- Wear self-contained breathing apparatus
- Avoid bodily contact with the material
- Wear full protective clothing
- Do not handle broken packages without protective equipment
- Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation

- If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
- If material leaking (not on fire), downwind evacuation must be considered

**METHYL PARATHION, LIQUID 4921442
POISON B, COMBUSTIBLE NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-100/45.4)**

Methyl parathion, liquid is a clear colorless liquid. It is used as a pesticide. It is slightly soluble in water and it is a combustible liquid. It is toxic by inhalation and skin absorption. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300

It weighs 11.3 pounds per gallon.

Continued on next page

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Evacuation
 If material leaking (not on fire), downwind evacuation must be considered

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 Use natural barriers or oil spill control booms to limit spill motion
 Use surface active agent (e.g. detergent, soaps, alcohols) to compress and thicken spilled material
 Inject "universal" gelling agent to solidify encircled spill and increase effectiveness of booms
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Remove trapped material with suction hoses
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

MEVINPHOS (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4921531
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
 Mevinphos is a yellow to orange liquid. It is used as a pesticide. It is a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind

Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

MEVINPHOS (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4921532
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
 Mevinphos is a yellow to orange liquid absorbed on a dry carrier. It is used as a pesticide. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

MEVINPHOS (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4921533
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
 Mevinphos is a yellow to orange liquid or the liquid absorbed on a dry carrier. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

MEVINPHOS MIXTURE, DRY (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4921538
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
 Mevinphos mixture, dry is a yellow to orange liquid absorbed on a dry carrier. It is used as a pesticide. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

MEVINPHOS MIXTURE, LIQUID (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4921539
POISON B NA2783
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1/0.454)
 Mevinphos mixture, liquid is a yellow to orange liquid. It is used as a pesticide. It is a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

MEXACARBATE (AGRICULTURAL INSECTICIDES, NEC, LIQUID) 4921541
POISON B NA2757
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
 Mexacarbate is a white solid dissolved in a liquid carrier. It is used as a pesticide. It is a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone; 800-424-9300.

If material on fire or involved in fire
 Do not extinguish fire unless flow can be stopped
 Use water in flooding quantities as fog
 Solid streams of water may be ineffective
 Cool all affected containers with flooding quantities of water
 Apply water from as far a distance as possible
 Use "alcohol" foam, carbon dioxide or dry chemical

Continued on next page

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers
 Build dikes to contain flow as necessary
 Attempt to stop leak if without hazard
 Use water spray to knock-down vapors

Personnel protection
 Avoid breathing vapors
 Keep upwind
 Wear self-contained breathing apparatus
 Avoid bodily contact with the material
 Wear full protective clothing
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

MEXACARBATE (AGRICULTURAL INSECTICIDES, NEC, OTHER THAN LIQUID) 4921542
POISON B NA2757
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
 Mexacarbate is a white solid. It is used as a pesticide. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water

Environmental considerations—water spill
 Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

MEXACARBATE (INSECTICIDES, OTHER THAN AGRICULTURAL, NEC) 4921540
POISON B NA2757
ENVIRONMENTALLY HAZARDOUS SUBSTANCE (RQ-1000/454)
 Mexacarbate is a white solid or the solid dissolved in a liquid carrier. It is used as a pesticide. It is a wettable powder or water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. In case of damage to, or leaking from containers of this material contact the pesticide safety team network. Telephone: 800-424-9300.

If material on fire or involved in fire
 Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
 Use water in flooding quantities as fog
 Use "alcohol" foam, carbon dioxide or dry chemical

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away
 Keep material out of water sources and sewers

Personnel protection
 Avoid breathing dusts, and fumes from burning material
 Keep upwind
 Avoid bodily contact with the material
 Wear boots, protective gloves, and goggles
 Do not handle broken packages without protective equipment
 Wash away any material which may have contacted the body with copious amounts of water or soap and water
 Wear self-contained breathing apparatus when fighting fires involving this material
 If contact with the material anticipated, wear full protective clothing

Environmental considerations—land spill
 Dig a pit, pond, lagoon, holding area to contain liquid or solid material
 Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete
 Absorb bulk liquid with fly ash or cement powder

Environmental considerations—water spill
 If dissolved, apply activated carbon at ten times the spilled amount in region of 10ppm or greater concentration
 Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates

Environmental considerations—air spill
 Apply water spray or mist to knock down vapors

MILD DETONATING FUSE, METAL CLAD 4903355
CLASS C EXPLOSIVE
 Mild detonating fuse, metal clad consists of a core containing not more than 15 grains of high explosive composition per foot and not exceeding 26 feet in length or containing not more than 2 1/2 grains of high explosive composition per foot covered with metal. It may or may not be covered with tapes, yarns, plastics or waterproofing compounds. Under fire conditions they will explode.

If material on fire or involved in fire
 Dangerously explosive
 Flood with water
 Apply water from as far a distance as possible

If material not on fire and not involved in fire
 Keep sparks, flames, and other sources of ignition away

Personnel protection
 Approach fire with caution
 Avoid breathing dusts, and fumes from burning material
 Wear self-contained breathing apparatus when fighting fires involving this material

Evacuation
 If fire becomes uncontrollable—evacuate for a radius of 1500 feet

MCD 000017277

MINE RESCUE EQUIPMENT CONTAINING CARBON DIOXIDE 4904845
NONFLAMMABLE GAS NA1956
Mine rescue equipment containing carbon dioxide consists of various apparatus and a cylinder of carbon dioxide. Carbon dioxide is nonflammable and is heavier than air. It can asphyxiate by the displacement of air.
If material involved in fire
Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not involved in fire
Attempt to stop leak if without hazard
Personnel protection
Avoid breathing vapors
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

MINING REAGENT, LIQUID (CONTAINING 20% OR MORE CRESYLIC ACID) 4931442
CORROSIVE MATERIAL, ACIDIC NA2022
Mining reagent, liquid (containing 20% or more cresylic acid) is a variable colored liquid with a phenol-like odor. It is insoluble in water. It is corrosive to tissue.
If material on fire or involved in fire
Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Use water spray to absorb vapors
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Neutralize spilled material with crushed limestone, soda ash, or lime
Personnel protection
Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

MIXED CHLOROSILANES (FLAMMABLE LIQUID, CORROSIVE, N.O.S.) 4907636
FLAMMABLE LIQUID, CORROSIVE UN2924
Mixed chlorosilanes are a clear colorless liquid having a pungent odor. It has a flash point of less than 100 deg. F. Both the liquid and vapor are corrosive. It is decomposed by water to give hydrochloric acid. Its vapors are heavier than air.
If material on fire or involved in fire
Do not extinguish fire unless flow can be stopped
Use "alcohol" foam, carbon dioxide or dry chemical
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Do not use water on material itself
If large quantities of combustibles are involved, use water in flooding quantities as spray and fog
Use water spray to absorb vapors
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary

Attempt to stop leak if without hazard
Use water spray to knock-down vapors
Do not use water on material itself
Neutralize spilled material with crushed limestone, soda ash, or lime
Personnel protection
Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear full protective clothing
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Evacuation
If fire becomes uncontrollable or container is exposed to direct flame—evacuate for a radius of 1500 feet
If material leaking (not on fire), downwind evacuation must be considered

MIXED LOAD OF GROCERIES AND GROCERS SUPPLIES 4950160
Consult shipping paper for exact contents of the car, container or trailer

MONO-(TRICHLORO) TETRA-(MONOPOTASSIUM DICHLORO) PENTA-S-TRIAZINETRIONE (DRY CONTAINING MORE THAN 39% AVAILABLE CHLORINE) 4918420
OXIDIZER NA2468
Mono-(trichloro)tetra-(monopotassium dichloro) penta-s-triazinetnone is a white crystalline solid with an odor of chlorine. It is used as a dry bleach in household cleaning compounds and swimming pool disinfectants. The material itself is noncombustible but if contaminated with combustible material ignition can result. It will also accelerate the burning of combustible material. Contact with ammonium compounds or hydrated salts can cause a very vigorous chemical reaction. May vigorously react with small quantities of water releasing chlorine gas. Prolonged exposure of the material to fire or heat may result in the vigorous decomposition of the material and the rupturing of its containers. Material containing less than 39% available chlorine will undergo reactions as described above though it may take longer to initiate and the resulting reaction may not be as vigorous.
If material on fire or involved in fire
Flood with water
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
If material not on fire and not involved in fire
Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Personnel protection
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
Wear self-contained breathing apparatus when fighting fires involving this material
If contact with the material anticipated, wear full protective clothing
Approach fire with caution
Evacuation
If fire becomes uncontrollable—evacuate for a radius of 2500 feet

MONO-TERT-BUTYL-META-CRESOL (COMBUSTIBLE LIQUID, N.O.S.) 4913172

COMBUSTIBLE LIQUID NA1993

Mono-tert-butyl-meta-cresol is a clear colorless liquid. It is used as a disinfectant, to make rubber, as a lubricating oil additive, and for many other uses. It has a flash point of 116 deg. f, and a melting point of 74 deg. F. It is lighter than water and insoluble in water.

If material on fire or involved in fire

Use water in flooding quantities as fog
Solid streams of water may be ineffective
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use "alcohol" foam, carbon dioxide or dry chemical
Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water

MONOBROMOTRIFLUOROMETHANE 4904549
NONFLAMMABLE GAS UN1009

Monobromotrifluoromethane is a colorless, odorless gas. It is shipped as a liquefied gas under its own vapor pressure. It is noncombustible. It can asphyxiate by the displacement of air. Contact with the liquid can cause frostbite.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire

Attempt to stop leak if without hazard

Personnel protection

Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

MONOCHLOROACETIC ACID, LIQUID 4931444
CORROSIVE MATERIAL, ACIDIC UN1750

Monochloroacetic acid, liquid is a colorless solution of the white crystalline solid. It is corrosive to metals and tissue.

If material on fire or involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible
Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Build dikes to contain flow as necessary
Neutralize spilled material with crushed limestone, soda ash, or lime

Personnel protection

Avoid breathing vapors
Keep upwind
Avoid bodily contact with the material

Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

MONOCHLOROACETONE, STABILIZED OR INHIBITED 4925250
IRRITATING MATERIAL UN1695

Monochloroacetone, stabilized or inhibited is a colorless liquid with the pungent odor characteristic of hydrochloric acid. Its vapors are extremely irritating to the eyes and mucous membranes.

If material on fire or involved in fire

Use water in flooding quantities as fog
Use "alcohol" foam, carbon dioxide or dry chemical
Cool all affected containers with flooding quantities of water
Use water spray to absorb vapors

If material not on fire and not involved in fire

Keep sparks, flames, and other sources of ignition away
Keep material out of water sources and sewers
Use water spray to knock-down vapors

Personnel protection

Avoid breathing vapors
Keep upwind
Wear self-contained breathing apparatus
Avoid bodily contact with the material
Wear boots, protective gloves, and goggles
Do not handle broken packages without protective equipment
Wash away any material which may have contacted the body with copious amounts of water or soap and water
If contact with the material anticipated, wear full protective clothing

Evacuation

If material leaking (not on fire), downwind evacuation must be considered

MONOCHLORODIFLUOROMETHANE 4904552
NONFLAMMABLE GAS UN1018

Monochlorodifluoromethane is a colorless gas with an ethereal odor. It is shipped as a liquefied gas under its own vapor pressure. It is noncombustible. It can asphyxiate by the displacement of air. Contact with the liquid can cause frostbite. Toxic gases can be produced in fires involving this material.

If material involved in fire

Extinguish fire using agent suitable for type of surrounding fire
(Material itself does not burn or burns with difficulty.)
Cool all affected containers with flooding quantities of water
Apply water from as far a distance as possible

If material not involved in fire

Attempt to stop leak if without hazard

Personnel protection

Avoid breathing vapors
Keep upwind
Wear protective gloves and goggles
Do not handle broken packages without protective equipment

MONOCHLOROETHYLENE (See VINYL CHLORIDE, MONOMER 4905792)

MONOCHLOROPENTAFLUOROETHANE 4904555
NONFLAMMABLE GAS UN1020

Monochloropentafluoroethane is a colorless odorless gas with an ether like odor. It is shipped as a liquefied gas under its own vapor pressure. It is noncombustible. It can asphyxiate by the displacement of air. Contact with the liquid can cause frostbite.

MCD 000017279