

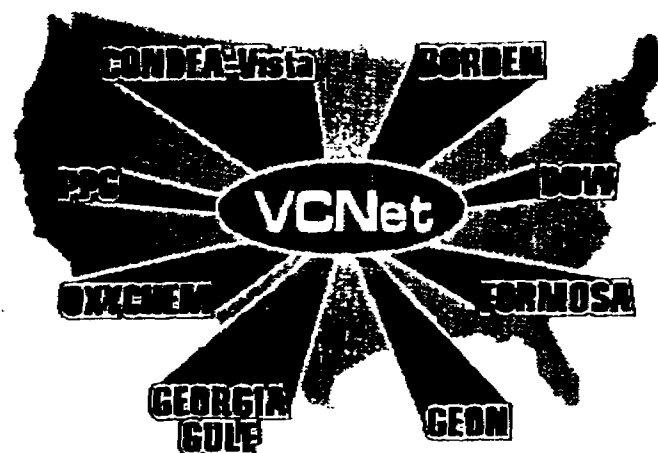
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USES FOR VINYL CHLORIDE MONOMER

Vinyl Chloride Monomer (VCM) is a basic chemical building block and is mainly used as a raw material in the production of Polyvinyl Chloride (PVC). PVC is used to make "vinyl" products such as wallcoverings, upholstery, flooring, house siding, water pipes, sewer pipes, luggage, clothing, automotive parts, medical devices, food wrap, window frames, wire insulation, garden hoses, and phonograph records.

More than 13 billion pounds of VCM is manufactured in the USA. Approximately half was transported by railroad tankcars in 1994.



THE VINYL CHLORIDE MUTUAL AID NETWORK

CMA^A

Chemical
Manufacturers
Association

2501 M Street, NW
Washington, DC 20037

202/687-1190
Facsimile 202/687-5427

SHIPPING
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company

CMA 112499

Borden Chemicals and Plastics
P.O. Box 427
Geismar, LA 70734-0427

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Midland, MI 48674

Formosa Plastics
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Livingston, NJ 07039

The GEON Company
Moore and Walker Road
P.O. Box 134
Avon Lake, OH 44012

Georgia Gulf Corp.
400 Diameter Center Terrace
Suite 595
P.O. Box 105197
Atlanta, GA 30348

Occidental Chemical Corp.
P.O. Box 809050
Dallas TX 75380-9050

PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

CONDEA-Vista Chemical Company
900 Threadneedle
Houston, TX 77079

Rev January, 1997

USES FOR VINYL CHLORIDE MONOMER

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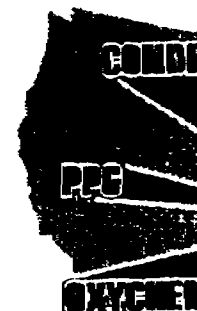
More than 13 billion pounds of VCM is manufactured in the USA. Approximately half was transported by railroad tankcars in 1994.

CM^A

Chemical
Manufacturers
Association

2581 M Street, NW
Washington, DC 20037

202/867-1100
Facsimile 202/867-5427



	NEPA
HEALTH	2
FIRE	4
REACTIVITY	2
1=Low/Minor/Severe	3=High/Serious
2=Moderate	4=Maximum

Flash Point: 77.8°C
Boiling Point: 13.9°C

Hazard Information

OSHA 8 hr. Time Weighted Average (TWA) 1 ppm, OSHA Short Term Exposure Limit (STEL) 5 ppm, ACGIH 8 hr. TWA 1 ppm

Nature of Product

Extremely Flammable. Irritated eyes, irritation of International Agencies for Research on Cancer of Humans and Animals from liquid contact. Liquid and vapor may cause central nervous system depression. May be a flammable gas.

Fire or Explosion

Extremely Flammable.
 May be ignited by heat, sparks or flame.
 Vapor may travel to a source of ignition and ignite.
 Container may explode in contact with heat or fire.
 Vapor explosion hazard and explosion hazard exist.

Health Hazards

May be poisonous if inhaled.
 Contact may cause burns to skin and eyes.
 Vapor may cause dizziness or suffocation.
 Contact with liquid may cause frostbite.
 Fire may produce irritating or poisonous fumes.

In Case of Accident

Keep unnecessary people out of area. Notify fire department. Stay upwind. Keep out of low areas. If in fire, use dry gas. Wear self contained breathing apparatus and protective clothing.

Spill/Leak

Shut off ventilation system and stop leaking. Stop leak if you can do so without risk. Water spray may reduce fire. Do not pour into sewer. Use dry chemical or foam to suppress fire. Do not disperse.

Fire

Use water spray to cool. Do not use water directly on fire.

Small Fires: Dry Chemical
 Large Fires: Water

Use water spray to cool. Do not use water directly on fire.

Use water spray to cool. Do not use water directly on fire.

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Use water spray to cool. Do not use water directly on fire.

Use water spray to cool. Do not use water directly on fire.

Emergency

Call 911. Notify fire department. Stay upwind. Keep out of low areas. If in fire, use dry gas. Wear self contained breathing apparatus and protective clothing.

Use water spray to cool. Do not use water directly on fire.

Use water spray to cool. Do not use water directly on fire.

Use water spray to cool. Do not use water directly on fire.

Hazard Information

OSHA 8 hr. Time Weighted Average (TWA) 1 ppm, OSHA Short Term Exposure Limit (STEL) 5 ppm, ACGIH 8 hr. TWA 5 ppm

Nature of Product

Extremely flammable liquefied gas. Classified as a carcinogen by: International Agency for Research on Cancer (IARC) and OSHA. Eye and skin burns from liquid contact; Liver and kidney toxin. Inhalation may cause central nervous system effects and narcosis. Heavier than air flammable gas.

Fire or Explosion

Extremely flammable.
May be ignited by heat, sparks or flames.
Vapors may travel to a source of ignition and flash back.
Container may explode violently in heat of fire.
Vapor explosion hazard indoors, outdoors or in sewers.

Health Hazards

May be poisonous if inhaled.
Contact may cause burns to skin and eyes.
Vapors may cause dizziness or suffocation.
Contact with liquid may cause frostbite.
Fire may produce irritating or poisonous gases.

In Case of Accident

Keep unnecessary people out of area; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Evacuate areas endangered by gas. Wear self-contained breathing apparatus (positive pressure) and protective clothing.

Spill/Leak

Shut off ignition sources; no flares, smoking or flames in hazard area. Stop leak if you can do without risk. Water spray may reduce vapor; but it may not prevent ignition in closed spaces. Isolate area until gas has dispersed.

Fire

Let tank, tank car or tank truck burn unless leak can be stopped, with smaller tanks or cylinders extinguish/isolate from other flammable.

Small Fires / Dry Chemical or Carbon Dioxide
Large Fires / Water spray, fog or regular foam.

Move container from fire area if you can do it without risk.

For massive fire in cargo area, use unmanned hose monitor nozzles, if this is impossible, withdraw from area and let fire burn.

Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire.

Cool container with water using unmanned device well after fire is out.

This is immediate response and first aid information. For additional medical information regarding exposure to this chemical, contact CHEMTREC® (1-800-424-9300).

Emergency First Aid Procedure

Move victim to fresh air and call emergency medical care; if not breathing, give artificial respiration; if breathing is difficult, give oxygen. In case of frostbite, thaw frosted parts with water. Keep victim quiet and maintain normal body temperature. This is immediate response and first aid information.

For additional information regarding VCM, refer to an MSDS or contact CHEMTREC®.



CMA 112502

APPROVAL FOR RELEASE OF DOW PROPRIETARY INFORMATION OUTSIDE OF THE DOW CHEMICAL COMPANY

A U T H O R	Title of Work <u>Vinyl Chloride Brochure</u> <u>Aerial Photographs of Vinyl Chloride</u> <u>Ship Loading</u>		Total Pages
	To Be Published In		
	To Be Presented At <u>Publicly Distributed from CMA in Wash. DC</u>		Date <u>6/97</u>
	To Be Released to (Gov. Agency, EPA, Etc.)		
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	Authors(s) <u>William E. Trotter</u>		Date <u>6/26/97</u>
	Master No <u>43 2566</u>		Phone <u>8809</u> Bldg. <u>6602</u>
	Department <u>Vinyl 2</u>		Location <u>Plaquemine</u>
	Related Patents or Disclosures	Related Products or Processes	Related Reports or Publications
Departmental Approvals for Release (Name and Date)			
Supervisor		Department Head	
R E V I E W E R S	REQUIRED		Suggested Reviewers
	Legal and/or Patent Dept.		Business Aspects (Include appropriate Business Team/Intellectual Asset Mgmt. Team)
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	☒ <u>John D. Hay June 26, 1997</u> (Name, Signature)		☒ <u>John D. Hay</u> (Name, Signature)
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CMA 112504

Eliminate
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(Air = 1)

Hazard Information

OSHA 8 hr. Time Weighted Average (TWA) 1 ppm, OSHA Short Term Exposure Limit (STEL) 5 ppm, ~~ACGIH 8 hr. TWA 5 ppm~~

Nature of Product

Shippous^{an} Extremely flammable liquefied gas. ^{Regulated} Classified as a carcinogen by ^{OSHA} International Agency for Research on Cancer (IARC) and OSHA. Eye and skin burns from liquid contact; Liver and kidney toxin. Inhalation may cause central nervous system effects and narcosis. ^{Heavier than air, flammable gas.} ^{Vapors are} ~~Flammable.~~ ^{will result} contact with liquefied gas.

Fire or Explosion

Extremely flammable. ^{are heavier than air and} ~~may be~~ ignited by heat, sparks or flames. ^{Easily} Vapors may travel to a source of ignition and flash back. Container may explode violently ~~in heat of fire~~ when heated. Vapor explosion hazard indoors, outdoors or in sewers.

Health Hazards

^{with liquefied gas} May be poisonous if inhaled. Contact may cause burns ~~to skin and eyes~~, ^{severe injury or} ~~severe injury or~~ ^{frostbite} ~~severe injury or~~ Vapors may cause dizziness or ~~suffocation~~. ^{asphyxiation} ~~Contact with liquid may cause frostbite~~. ^{and/or toxic} ~~Fire may produce irritating or poisonous gases.~~

In Case of Accident

Keep unnecessary people out of area; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Evacuate areas endangered by gas. Wear self-contained breathing apparatus (positive pressure) and protective clothing.

Spill/Leak

~~Stop~~ ^{Eliminate} ignition sources; no flares, smoking or flames in hazard area. Stop leak if you can do without risk. Water spray may reduce vapor; but it may not prevent ignition in closed spaces. Isolate area until gas has dispersed.

Fire

Let tank, tank car or tank truck burn unless leak can be stopped, with smaller tanks or cylinders extinguish/isolate from other flammable ^{use} ~~use~~.

^{use} For Small Fires ~~X~~ Dry Chemical or Carbon Dioxide
^{use} For Large Fires ~~X~~ Water spray, fog or regular foam.

Move container from fire area if you can do it without risk

For massive fire ^{in cargo area} use unmanned hose monitor nozzles, if this is impossible, withdraw from area and let fire burn

Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire

Cool container with water using unmanned device well after fire is out

This is immediate response and first aid information. For additional medical information regarding exposure to this chemical, contact CHEMTREC® (1-800-424-9300).

Emergency First Aid Procedure

Move victim to fresh air and call emergency medical care; if not breathing, give artificial respiration; if breathing is difficult, give oxygen. In case of frostbite, thaw frosted parts with water. Keep victim quiet and maintain normal body temperature. This is immediate response and first aid information.

For additional information regarding VCM, refer to an MSDS or contact CHEMTREC®.



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Formosa Plastics
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Livingston, NJ 07039

The GEON Company
Moore and Walker Road
P.O. Box 134
Avon Lake, OH 44012

Georgia Gulf Corp.
400 Diameter Center Terrace
Suite 595
P.O. Box 105197
Atlanta, GA 30348

Occidental Chemical Corp.
P.O. Box 809050
Dallas TX 75380-9050

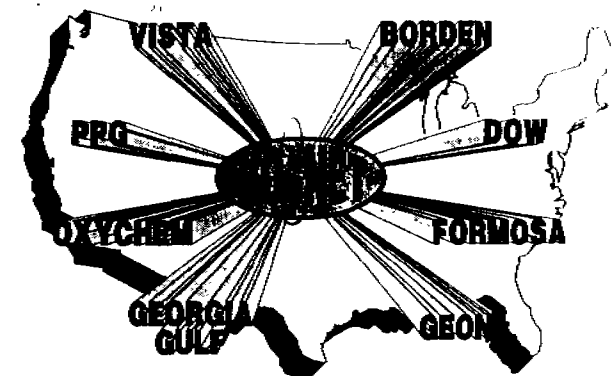
PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

Vista Chemical Company
900 Threadneedle
Houston, TX 77079

USES FOR VINYL CHLORIDE MONOMER

Vinyl Chloride Monomer (VCM) is a basic chemical building block and is mainly used as a raw material in the production of Polyvinyl Chloride (PVC). PVC is used to make "vinyl" products such as wallcoverings, upholstery, flooring, house siding, water pipes, sewer pipes, luggage, clothing, automotive parts, medical devices, food wrap, window frames, wire insulation, garden hoses, and phonograph records.

More than 13 billion pounds of VCM is manufactured in the USA. Approximately half was transported by railroad tankcars in 1994.



THE VINYL CHLORIDE MUTUAL AID NETWORK

CMA

Chemical
Manufacturers
Association

2501 M Street, NW
Washington, DC 20037

202/887-1100
Facsimile 202/887-5427

January, 1995

Vinyl Chloride Monomer

Emergency Response Information

Bill of Lading Description

Vinyl Chloride, Stabilized/2.1 (Flammable Gas) UN 1086

RQ (Vinyl Chloride)/Placarded: Flammable Gas

Emergency contact: 1-800-424-9300

Hazmat STCC = 4905792

SYNONYMS-Chloroethene, chloroethylene, ethylene monochloride, monochloroethylene, VCM

References

1993 DOT Emergency Response Guidebook, Guide 17

1996 N.F.P.A. Emergency Response Guidebook, Guide No 116

NFPA

National Fire Protection Association Rating

CMA 112506

NFPA	
HEALTH	2
FIRE	4
REACTIVITY	2
4=Extreme/Severe 3=High/Serious 2=Moderate 1=Slight 0=Minimum	

Properties

Flash Point - -77°C Vapor Density: 2.15 (Air = 1)

Boiling Point: -13.9°C

Hazard Information

OSHA 8 hr. Time Weighted Average (TWA) 1 ppm, OSHA Short Term Exposure Limit (STEL) 5 ppm, ACGIH 8 hr. TWA 5 ppm

Nature of Product

Extremely flammable liquefied gas. Classified as a carcinogen by: International Agency for Research on Cancer (IARC) and OSHA. Eye and skin burns from liquid contact; Liver and kidney toxin. Inhalation may cause central nervous system effects and narcosis. Heavier than air flammable gas.

Fire or Explosion

Extremely flammable.
May be ignited by heat, sparks or flames.
Vapors may travel to a source of ignition and flash back.
Container may explode violently in heat of fire.
Vapor explosion hazard indoors, outdoors or in sewers.

Health Hazards

May be poisonous if inhaled.
Contact may cause burns to skin and eyes.
Vapors may cause dizziness or suffocation.
Contact with liquid may cause frostbite.
Fire may produce irritating or poisonous gases.

In Case of Accident

Keep unnecessary people out of area; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Evacuate areas endangered by gas. Wear self-contained breathing apparatus (positive pressure) and protective clothing.

Spill/Leak

Shut off ignition sources; no flares, smoking or flames in hazard area. Stop leak if you can do without risk. Water spray may reduce vapor, but it may not prevent ignition in closed spaces. Isolate area until gas has dispersed.

Fire

Let tank, tank car or tank truck burn unless leak can be stopped. With smaller tanks or cylinders extinguish/isolate from other flammable.

Small Fires / Dry Chemical or Carbon Dioxide

Large Fires / Water spray, fog or regular foam.

Move container from fire area if you can do it without risk.

For massive fire in cargo area, use unmanned hose monitor nozzles, if this is impossible, withdraw from area and let fire burn.

Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire.

Cool container with water using unmanned device well after fire is out.

This is immediate response and first aid information. For additional medical information regarding exposure to this chemical, contact CHEMTREC® (1-800-424-9300).

Emergency First Aid Procedure

Move victim to fresh air and call emergency medical care. If not breathing, give artificial respiration, if breathing is difficult, give oxygen. In case of frostbite, thaw frosted parts with water. Keep victim quiet and maintain normal body temperature. This is immediate response and first aid information.

For additional information regarding VCM, refer to an MSDS or contact CHEMTREC®.



Borden Chemicals and Plastics
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The Dow Chemical Company
2030 Wilshire Blvd.
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Formosa Plastics
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Livingston, NJ 07039

The GEON Company
Moore and Walker Road
P.O. Box 134
Avon Lake, OH 44012

Georgia Gulf Corp.
400 Diameter Center Terrace
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Atlanta, GA 30348

Occidental Chemical Corp.
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Dallas, TX 75380-9050

PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

CONDEA Vista Chemical Company
900 Third Street
Pittsburgh, PA 15222

USES FOR VINYL CHLORIDE MONOMER

Vinyl Chloride Monomer (VCM) is a basic chemical building block. It is mainly used in the production of Polyvinyl Chloride (PVC). PVC is used to make vinyl products such as wall coverings, upholstery, flooring, house siding, water pipes, sewer pipes, luggage, clothing, automotive parts, medical devices, food wrap, window frames, wire insulation, garden hoses, and photographic film.

STEP More than 13 billion pounds of VCM is manufactured in the USA. Approximately half was transported by railroad tank cars in 1991.

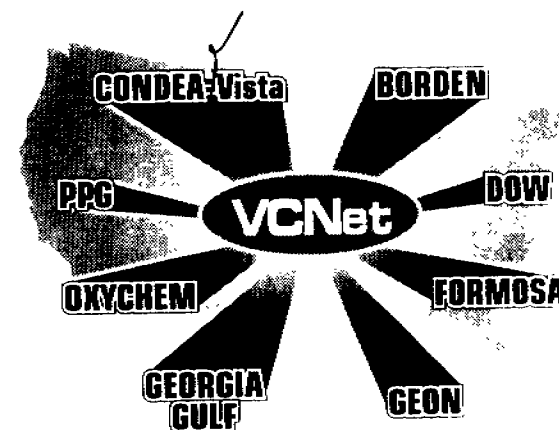
When to add Shink?

CM^A
Chemical
Manufacturers
Association

2501 M Street, NW
Washington, DC 20037

703-741-5800
202/462-4400
Facsimile 202/462-5421

4/4/97



THE VINYL CHLORIDE MUTUAL AID NETWORK

CMA 112507

Brochure-UCRiet

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Houston, TX 77079

Rev. June, 1997

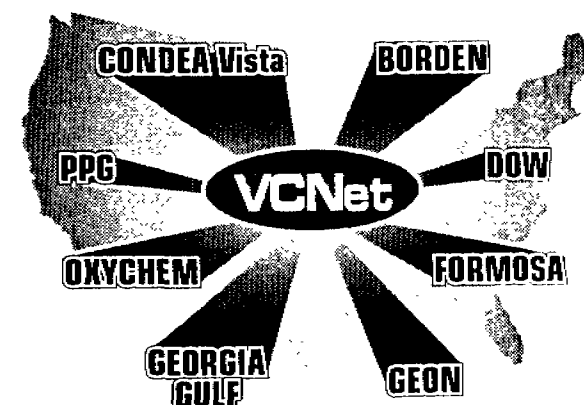
USES FOR VINYL CHLORIDE MONOMER

Vinyl Chloride Monomer (VCM) is a basic chemical building block and is mainly used as a raw material in the production of Polyvinyl Chloride (PVC). PVC is used to make "vinyl" products such as wallcoverings, upholstery, flooring, house siding, water pipes, sewer pipes, luggage, clothing, automotive parts, medical devices, food wrap, window frames, wire insulation, garden hoses, and phonograph records.

More than 15 billion pounds of VCM is manufactured in the USA. Approximately half is transported by railroad tankcars.

CMA
Chemical
Manufacturers
Association

1300 Wilson Blvd.
Arlington, VA 22209
703-741-5000



THE VINYL CHLORIDE MUTUAL AID NETWORK

Vinyl Chloride Monomer

Emergency Response Information

Bill of Lading Description

Vinyl Chloride, Stabilized//2.1 UN 1086
RQ

Emergency contact: 1-800-424-9300
Hazmat STCC = 4905792 N.A.E.R.G. No. 116 P
SYNONYMS-Chloroethene, chloroethylene, ethylene
monochloride, monochloroethylene, VCM

References

1996 North American Emergency Response Guidebook:
Guide No. 116 P

NFPA

National Fire Protection Association Rating

NFPA	
HEALTH	3
FIRE	4
REACTIVITY	2
4=Extreme/Severe 2=Moderate 1=Slight	3=High/Serious 0=Minimum

Properties

Flash Point: -77.8° C Vapor Density: 2.15 (Air = 1)
Boiling Point: -13.9° C

Hazard Information

OSHA 8 hr. Time Weighted Average (TWA) 1 ppm, OSHA Short
Term Exposure Limit (STEL) 5 ppm, ACGIH 8 hr. TWA 5 ppm

Nature of Product

Extremely flammable liquefied gas. Classified as a carcinogen by:
International Agency for Research on Cancer (IARC) and OSHA. Eye
and skin burns from liquid contact; Liver and kidney toxin. Inhalation
may cause central nervous system effects and narcosis. Heavier than air
flammable gas.

Fire or Explosion

Extremely flammable.
May be ignited by heat, sparks or flames.
Vapors may travel to a source of ignition and flash back.
Container may explode violently in heat of fire.
Vapor explosion hazard indoors, outdoors or in sewers.

Health Hazards

May be poisonous if inhaled.
Contact may cause burns to skin and eyes.
Vapors may cause dizziness or suffocation.
Contact with liquid may cause frostbite.
Fire may produce irritating or poisonous gases.

In Case of Accident

Keep unnecessary people out of area; isolate hazard area and deny
entry. Stay upwind; keep out of low areas. Evacuate areas endangered
by gas. Wear self-contained breathing apparatus (positive pressure) and
protective clothing.

Spill/Leak

Shut off ignition sources; no flares, smoking or flames in hazard area.
Stop leak if you can do without risk. Water spray may reduce vapor; but
it may not prevent ignition in closed spaces. Isolate area until gas has
dispersed.

Fire

Let tank, tank car or tank truck burn unless leak can be stopped; with
smaller tanks or cylinders extinguish/isolate from other flammable.

Small Fires / Dry Chemical or Carbon Dioxide
Large Fires / Water spray, fog or regular foam.

Move container from fire area if you can do it without risk.

For massive fire in cargo area, use unmanned hose monitor nozzles; if
this is impossible, withdraw from area and let fire burn.

Withdraw immediately in case of rising sound from venting safety
device or any discoloration of tank due to fire.

Cool container with water using unmanned device well after fire is out

This is immediate response and first aid information. For additional
medical information regarding exposure to this chemical, contact
CHEMTREC® (1-800-424-9300).

Emergency First Aid Procedure

Move victim to fresh air and call emergency medical care; if not
breathing, give artificial respiration; if breathing is difficult, give
oxygen. In case of frostbite, thaw frosted parts with water. Keep victim
quiet and maintain normal body temperature. This is immediate
response and first aid information.

For additional information regarding VCM, refer to an MSDS or
contact CHEMTREC®.



Benefits and Uses of Vinyl Chloride Monomer

Vinyl Chloride Monomer (VCM) is a basic chemical building block and is mainly used as a raw material in the production of Polyvinyl Chloride (PVC). PVC is used to make "vinyl" products. Vinyl is the second largest volume plastic produced in the world. U.S. production alone currently exceeds 15 billion pounds annually, and 40 billion pounds worldwide each year. Applications are found in most industries, including communications, automotive, retailing, textiles, construction, health care, aerospace, durable goods and agriculture. Major uses include water distribution, irrigation and sewer pipe, wire and cable insulation electrical conduit, floor and wall covering landfill liners, piping used in food processing, fencing and house siding. Toys, upholstery, floor mats, body side moldings, adhesives and sealants, surgical equipment and patio furniture.

ABOUT VINYL CHLORIDE MONOMER

- Vinyl is the world's second most widely used plastic material.
- Over 50 percent of all vinyl produced is used by the construction industry, and more vinyl is used in construction than any other plastic. Therefore, vinyl is often referred to as the "infrastructure plastic".
- Over 50 years ago, vinyl was first introduced, making it one of the most time-tested synthetic materials in use today.
- Vinyl's first major use was as a rubber insulation replacement for wiring on U.S. ships during World War II.
- PVC water pipe economically delivers pure water to even the most remote location; PVC irrigation pipe helps increase crop yields; PVC sewer pipe helps insure the integrity of waste water handling systems.
- Vinyl medical goods and pharmaceutical packaging provide a higher, safer standard of health care.

- Vinyl's inherent flame retardance has made it the dominant material for many electrical uses and has helped make electrical service safer and more dependable.
- Vinyl's durability and comparative low cost helps make housing more affordable.
- Vinyl packaging helps reduce food spoilage and waste. It is virtually unreplaceable in meat wrap.
- Vinyl is a small, manageable part of the solid waste stream.
- Vinyl can be safely incinerated and landfilled.

RECYCLING VINYL

Millions of pounds of vinyl are being recycled each year. In 1995 alone, approximately 9.5 million pounds of post-consumer vinyl was recycled. In addition to this, an estimated 300 million pounds of pre-consumer vinyl scrap was diverted from landfills to be recycled into second-generation products. Long-lived vinyl applications are also being recycled. Examples of this are vinyl siding, wire and cable scrap, and computer keyboard housings. Special grades of PVC pipe now contain an inner core of recycled vinyl. Recently, the University of Toledo identified nearly 100 potential uses for recycled vinyl, most in non-packaging applications. The demand far exceeds the supply. The University estimated potential demand for recycled vinyl at about 500 million pounds per year. This is more than twice the amount available by recycling all vinyl bottles. Numerous commercial products contain recycled vinyl. The vinyl industry has helped sponsor the development of several automated technologies that separate vinyl packaging from other plastics in the waste stream. These systems are now in commercial use in at least 40 locations throughout the U.S. and Europe.

INCINERATION OF VINYL

Incinerator scrubbing systems can remove about 99 percent of the hydrogen chloride (HCl) generated by incinerating vinyl plastics and other chlorine-containing compounds and materials. Research indicates that this can be done at a minimal cost. Studies done in Europe and Japan show that only 0.3 percent of all atmospheric acidity can be traced to incineration of vinyl, which in turn represents only 0.02 percent of all acid rain. Power plants and auto exhaust are the main sources.

LANDFILLING

Vinyl products are extremely resistant to the corrosive conditions found in landfills and will not break down or degrade under them. In

fact, vinyl is often used to make landfill liners because of its resistance to these conditions and PVC pipe is used to collect landfill leachate.

VINYL PLASTICS: AN ENVIRONMENTAL PROFILE

Vinyl has become one of the most widely used materials in part because of its cost-efficiencies and economic use of natural resources. These efficiencies begin when vinyl is produced, and continue throughout its lifecycle, encompassing such elements as raw material usage, energy used in processing, energy used in maintenance requirements, and disposal costs.

Vinyl is only partially derived from nonrenewable petroleum feedstocks. The balance comes from salt, an inexpensive, renewable natural resource.

Vinyl compares favorably to other packaging materials. In 1992, a lifecycle assessment comparison of specific packages made from glass, paperboard, paper, and selected plastics concluded:

- Vinyl was the material with the lowest production energy and carbon dioxide emissions and the lowest fossil fuel and raw material requirements of the plastics studied.
- The vinyl chloride monomer (VCM) production process (the first step to vinyl production) is a classic use of in-process waste minimization since virtually all material used to make it is recycled back into the process.

Vinyl is one of three plastic materials with the lowest energy requirements of twelve major plastics used. The use of vinyl in the transportation market saves an estimated 10 trillion BTU's per year — the equivalent of 1.7 million barrels of oil, or ten billion cubic feet of natural gas. The use of vinyl in eight major building and construction applications saves an estimated 260 trillion BTU's per year — the equivalent of 44.2 million barrels of oil, or 260 billion cubic feet of natural gas. Together, the use of vinyl in the transportation and construction markets alone saves 270 trillion BTU's per year—enough to meet the annual energy requirements of nearly 2.7 million households. Additional resources are saved because of the durability of vinyl. Some PVC pipe installations, for example, have been in use for nearly 50 years and do not yet need to be replaced. By reducing the frequency with which a product must be replaced, vinyl further reduces raw material consumption, as well as demolition scrap destined for landfills.

PURPOSE

The Vinyl Chloride manufacturers work aggressively to promote the safe distribution of *Vinyl Chloride Monomer (VCM)*. In the event of a distribution incident involving VCM, the consequences of a chemical spill or potential release may be made less serious if a chemical expert is available at the scene to give advice and assistance. Occasionally, however, the shipper's response team may be too far from a chemical incident to arrive at the scene in the first crucial hours.

For that reason, and as a voluntary public service, VCM manufacturers have joined together to form a Vinyl Chloride Transportation Network (VCNet) which will coordinate chemical company and for-hire response teams in association with the Chemical Manufacturers Association's Chemical Transportation Emergency Center (CHEMTREC®). VCNet is a mutual aid network that is intended to provide technical expertise and assistance at the scene of Vinyl Chloride Distribution Incidents (VCDIs) when the shipper cannot respond promptly.

VCNET RESPONSE PROCEDURE

If a VCM emergency occurs, call CHEMTREC® (USA) (1-800 424-9300) to receive immediate advice and assistance. The CHEMTREC® response center will obtain critical details regarding the emergency and provide appropriate precautionary information. CHEMTREC® will then contact the appropriate company in accordance with the following scenario:

WHEN A SHIPPER IS KNOWN

CHEMTREC® will call the shipper and provide details of the incident, and the name and phone number of the contact person at the scene. In addition, CHEMTREC® will identify the name, location, and phone number of the nearest VCNet member.

If the shipper cannot respond promptly to an incident that requires the presence of a chemical expert, the shipper, through CHEMTREC® will request a nearby VCNet member company to respond.

Photo

Only VCNet member companies and for-hire responders that are qualified to handle the hazards of VCM will be requested to respond.

After receiving a call from CHEMTREC® or another emergency responder, the VCNet responder should immediately make phone contact with appropriate personnel at the scene to judge the extent of the incident.

WHEN A SHIPPER IS NOT KNOWN

CHEMTREC® will call the company with the VCNet response team closest to the incident and provide details on the site location, and the name and phone number of the contact person at the scene. After receiving a call from CHEMTREC® or other emergency responder, the VCNet responder should immediately make phone contact with appropriate personnel at the scene to judge the extent of the incident. CHEMTREC® may authorize a for-hire response company to go to the scene.

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Photo