

I. Hazardous Waste Operations (OSHA 1910.120)

On March 6, 1990, OSHA^{3, 4} put into effect regulations dealing with hazardous waste operations due to the fact hazardous waste is a potential problem that could endanger human and animal life and environmental quality. Hazardous waste - discarded chemicals that are toxic, flammable or corrosive, can also cause fires, explosions and pollution of air, water and land. Unless hazardous waste is properly treated, stored or disposed, it could cause serious harm to all living things that come in contact with it, now or in the future.

This regulation was developed specifically to protect workers in this environment and to help them handle it safely and effectively. There are various components essential in managing hazardous waste sites safely and effectively. These components have their roots stemming initially from a safety and health program which plays a primary role in dealing with the hazards associated with hazardous waste operations and to maintain a safe and healthy working environment. These components consist of:

A. A Work Plan

Appropriate planning is essential in dealing with hazardous waste activities. This planning is developed through a chain of command which specifies employer and employee responsibility in carrying out the safety and health program. This plan includes policies and procedures involved with site operation and items involved to help it perform safely.

B. Site Evaluation & Control

Employees should be able to evaluate the environment to notice abnormal conditions which warrant emergency response activities. This not only includes the physical environment but work practices also.

C. Information & Training

The safety and health program also provides employee training about hazardous waste operations. This training provides the necessary knowledge and skills to perform work with minimal risk to one's safety and health. Employees must not perform hazardous waste activities unless trained to do their jobs and to recognize hazardous materials and their risks.

D. Personal Protective Equipment

Also included is personal protection policies for all employees involved with hazardous waste or other materials in the plant that may pose a risk upon the health of the employee. Employees are trained on the use of respiratory protection and the various types of equipment appropriate for various work situations. This equipment and training must be made available when needed or when permissible exposure limits are exceeded.

E. Monitoring

When airborne contaminants are present, air monitoring is often done to determine oxygen deficient atmospheres and areas where exposures may be too high. If hazardous waste cleanup is necessary, periodic monitoring will take place to identify changing conditions.

F. Medical Surveillance

The medical surveillance activities under this program helps assess and monitor the health and fitness of employees working with hazardous substances. Examinations include a medical and work history with special emphasis on symptoms relating to the handling of hazardous substances and the fitness to duty. Fitness includes the ability to wear any required personal protective equipment under conditions that require its use.

G. Decontamination Procedures

Appropriate decontamination is made available where conditions warrant this type of activity. Mercury Cell, for example, is provided with change and shower facilities for employees who may be potentially exposed to mercury contamination. Decontamination will also extend to any activities or emergencies where cleanup would be needed.

H. Emergency Response

Emergency response is an important component of the safety and health program. Complete emergency response procedures and contingency plans are in place to deal with hazardous waste emergencies throughout the plant.

II. Legislation Related to Hazardous Waste Operations 1910.120

A. Resource Conservation & Recovery Act 1976 (RCRA)

RCRA was the first comprehensive act by law to address the problems associated with hazardous waste. It "regulates anyone engaged in the creation, transportation, treatment, and disposal of hazardous wastes. It also regulates facilities for the disposal of all solid wastes and prohibits the use of open dumps for solid wastes." From RCRA comes the phrase: Cradle to grave, in reference to hazardous waste.

B. The Comprehensive Environmental Response, Compensation & Liability Act of 1980 (CERCLA)

CERCLA came about in response to the need to clean up pre-RCRA sites which were often abandoned and often contaminated with unknown

quantities of unknown wastes. This law provides cleanup of waste contamination from spills and from environmental damage associated with abandoned waste sites.

C. Superfund Amendments & Reauthorization Act of 1985 (SARA)

SARA recognized the need for protecting employees exposed to hazardous wastes and gave way to the development of OSHA's legislation dealing with hazardous waste operations.

III. Our Responsibility Under OSHA 1910.120

PPG must comply with this regulation because of our five hazardous waste sites and our need to provide protection for employees associated with these areas. These five sites along with their spill containment characteristics are as follows:

A. Drum Storage Area at the South Terminal

This is a storage area used to accumulate drummed wastes until shipped off for disposal. Drum quantities of liquid wastes are stored on a concrete slab approximately 100' x 77'. The slab is totally enclosed by a retainer wall and is sloped to two deep sumps to contain any spills that may occur. The sump contents are analyzed and treated, if necessary, prior to discharge.

B. Mercury Cell Drum Storage Area

This storage area is located adjacent to the Mercury Cell production area and is used to store only drums of mercury contaminated sludge and spent solvent. Any spill or leak would be collected within the curbing of the collection trench surrounding the containment area and drained into the mercury waste water treatment unit for treatment.

C. Waste Water Treatment Surge Pond at WTU

The waste water treatment surge pond has been replaced by two tanks that function as the surge pond. The pond is no longer in operation and is currently undergoing cleanup.

D. Incinerators at WTU

Four incinerators at WTU are used to combust hazardous waste generated on-site. Three gas fired incinerators are used for the destruction of liquid and gaseous streams of chlorinated hydrocarbons. The fourth is used to destroy chlorinated hydrocarbons contained in sludge or solid waste.

If fire could potentially occur, incineration activities would be stopped. Waste feed and fuel would be shut off and emergency procedures implemented.

Precautions are in place for spills or leaks. Liquids and sludges to be incinerated are stored in five storage tanks resting on concrete foundations from which spills or leaks can be detected and contained by dikes. The areas around the incinerators are also paved and curbed to collect spills and/or leaks.

If an incinerator were to trip off due to electrical or instrument problems, waste feed flow would be stopped immediately and switched to another on-line incinerator.

E. Reusable Materials Storage Tanks at WTU

These are a series of seven tanks used to temporarily store chlorinated hydrocarbon byproducts received from suppliers until it is reclaimed as feed stock. Spills or leaks from any seven of the tanks are held within the concrete containment area around them. This material would be picked up by vacuum truck and transported to another tank.

As you can see, there are various safeguards in place to deal with potential emergencies that could take place involving these waste areas. Safeguards must also be in place with every individual involved with activities involving hazardous waste. These safeguards consist primarily of knowledge and understanding of the issues involving hazardous waste and how to protect yourself.

IV. Typical Spill Response Procedures

A. Protect Your Body

In the event of a spill, you must make sure that you are protected from chemical exposure. This means protecting any vulnerable route of entry into your body. To be safe, assume the worst. If you don't have the right protective equipment, stay away from the spill.

Some chemicals are most hazardous when they are inhaled. You may need equipment to protect your nose, mouth, and lungs. Such respiratory protection may include a respirator or a full scale, self-contained breathing apparatus. You need to be physically able and trained to use this equipment if the need arises.

A warning label on the chemical container or the Material Safety Data Sheet for that chemical can tell you if and what respiratory protection is necessary.

Chemical resistant gloves and slicker suits may also be needed, or boots to protect the feet. Any area of your body that is unprotected may be damaged by chemical contact.

Remember that spills happen most often because of human involvement or accident. Whatever caused the spill in the first place may cause other aspects of the situation to be abnormal. Be prepared for chain reactions or escalating hazards by protecting your body with the equipment provided by your supervisor or safety officer.

B. Spill Response Activities

1. Identify

When you are responding to an emergency, identification of the spilled substance should be at the top of the list. Chemicals are identified on their container labels. The label will give the name of the chemical and its immediate hazards.

If you can't read the label immediately, make sure you wear protective equipment before getting any closer to the chemical. Don't take chances.

2. Shut Off the Source

Immediately shut off the source of the spill or upright the container. Act quickly to minimize the spill.

3. Eliminate Ignition Sources

Extinguish any source of spark or flame in the area.

4. Report

Get help. Report the spill as soon as possible to your supervisor or to other emergency personnel. Immediately calling for help is the best thing to do in most situations.

5. Contain and Absorb

Containment is possible by damming, diking or blocking the flow of the chemical. Absorbents can be laid immediately around the area.

6. Protect Drains

Protect drains from contamination by the chemical. Protecting a drain could be the most valuable activity you perform during spill response -- especially if its a drain that does not lead to a process sewer.

7. Cleanup and Decontaminate

Once all the spilled substance has been contained, the cleanup process begins. Decontamination of surfaces is important. A neutralizer solution can be washed over the surface until the hazardous residue has been eliminated.

Air packs and other reusable items can be decontaminated and restored by using a washing solution.

Any contaminated soil, shell or other debris resulting from the spill must be picked up or excavated.

8. Dispose

All contaminated materials must be packaged and labeled in accordance with proper hazardous waste disposal procedures. These materials may include spent absorbents, rags, tools, clothing, and other disposables.

V. Summary

Remember, the potential hazards associated with hazardous wastes can be great. Let's use the laws regarding hazardous waste operations to our advantage in providing a safe and healthy environment in which to work. Knowledge, understanding and the desire to maintain a safe workplace can make this possible.