

# **2 - Chemical Spills: Safety Training**

EH&S – MGA

**Goals: This safety session should teach you to:**

- A. Recognize the hazards associated with chemical spills and leaks.
- B. Know the procedures for responding to and containing spills and leaks.
- C. Be able to respond immediately and correctly in the event of a chemical spill or leak.

**OSHA Regulations: 29 CFR 1910.1200, the OSHA Hazard Communication Standard or right-to-know standard, Resource Conservation and Recovery Act (RCRA)**

**1. Consequences of a Hazardous Chemical Spill**

- A. A major spill of a hazardous chemical can lead to a catastrophic event. The actual results depend on the chemical involved and the size of the spill. Among the possible results are:
  - 1. Fire
  - 2. Explosion
  - 3. Reaction with another chemical or with air or water
  - 4. Hazardous substances released in the air
  - 5. Hazardous substances entering the water supply
  - 6. Harm to individuals who come in contact with the spilled substance
- B. The MSDS for the chemical will identify the hazards posed by the chemical and describe the proper action to take following a spill.

**2. When a Spill Occurs**

- A. Employees should be trained to notify a supervisor or the emergency coordinator immediately whenever they notice a spill or leak—no matter how small. They should report:
  - 1. Substance that is leaking or spilled
  - 2. Location of the leak or spill
  - 3. Size of the leak or spill
  - 4. Rate of flow
- B. The supervisor or emergency coordinator will give instructions to the employee. He or she may say one of the following:
  - 1. It is safe to clean it up yourself (in the case of a very small spill).
  - 2. Evacuate the area and let a specially trained crew handle the cleanup.
  - 3. This is a serious spill and should be reported to authorities who will take action to protect the public.

### **3. The Containment Process**

- A. Specially trained cleanup crews, wearing appropriate PPE, will review the chemical's SDS, to determine its hazards and the appropriate cleanup steps.
- B. Typically, the process will contain the following steps:
  - 1. Stop the source of the leak. Close valves, pumps, or whatever may be allowing the material out.
  - 2. Cover drains or other possible escape routes.
  - 3. Patch holes with patch kits, valve plugs, or whatever is needed.
  - 4. Contain the spill by the best method. Possible actions might be:
    - a. Building a dike to keep spilled liquid from getting into water
    - b. Repairing the container or enclosing it in another container
    - c. Channeling the spill to a secure spot where it won't spread
    - d. Shifting the container's position to stop the leak

### **4. The Cleanup Process**

- A. The cleanup crew should use absorbent materials to soak up the spill or solidify it. Then the absorbent-liquid mixture should be deposited in an EPA-approved container for disposal.

### **5. The Decontamination Process**

- A. It is vital to prevent contaminated materials from spreading to clean areas of the facility, the surrounding community, and employee homes. With some particularly hazardous chemicals, just the amount sticking to the soles of shoes could contaminate an entire water supply. That is why protective clothing, PPE, tools, and equipment used in the containment and cleanup effort—and any other materials that might have come into contact with hazardous chemicals— must be deposited in the appropriate container for decontamination or disposed of in an EPA- approved container.

### **6. Proper Recordkeeping**

- A. There should be a complete record of the incident, including the date and nature of the spill, personnel involved, action taken to contain and clean up the spill, and a description of the decontamination process.

### **7. Medical Examination, if Necessary**

- A. Any employee who believes he or she has been exposed to a toxic chemical should have a medical examination as soon as possible after the exposure.

**Summation: Follow appropriate safety measures to prevent a spill and know the proper steps to take incase of an accident.**

This can help minimize the consequences of a chemical spill.