EMERGENCY RESPONSE

In a world that increasingly relies on chemicals, the transportation, handling, and storage of those substances concern everyone. Hazardous chemical spills and exposure affect individuals, families, communities, and the ecological health of the entire planet.

Good planning is essential to safe chemical handling. That is why any organization that deals with hazardous chemicals will have:

- An emergency response team in place, or
- Made arrangements with an outside contractor to respond to chemical emergencies.

Although you do your best to avoid accidents, mishaps with toxic chemicals still occur. When a hazardous chemical spills in your workplace, you need to know the correct steps to take.

WHERE ARE THE REGULATIONS?

The Occupational Safety and Health Administration (OSHA) have issued the Hazardous Waste Operations and Emergency Response (HAZWOPER) standard. It is found at 29 CFR 1910.120. Even though the City is not subject to OSHA, it is a good guide to use when establishing your own department policies and procedures.

EMERGENCY ACTION PLANS

You should be familiar with:

- How to report fires, hazardous chemical spills, and other emergencies.
- The route you are assigned to take during a building evacuation.
- Who to ask for more information.

ALARM SYSTEMS

Most employers use alarm systems to tell employees that they should evacuate an area or take a specific action. You must be able to recognize these alarms. In areas where production noise could prevent an alarm from being heard, flashing lights are often installed as a second, visual alarm. These alarm systems often have auxiliary power sources so that they can operate even when the power goes out.

EMERGENCY SHUTDOWN OF EQUIPMENT

If time permits before evacuation, turn off any equipment you are operating, such as forklifts or power tools connected directly to a power source. Your supervisor may designate certain workers to shut down critical facility systems, such as gas and electrical power, before evacuating the work area.

EVACUATION

Your supervisor will develop emergency evacuation routes for the various locations in your facility. Floor plans or work-area maps that clearly define emergency escape routes are commonly used to convey this information.

Emergency evacuation procedures may also indicate shelter areas, such as locker rooms and cafeterias that are structurally sound, to be used as shelter during a tornado, for example.

Your supervisor will designate certain employees to take a head count of all workers after evacuation and to inform emergency responders of any missing personnel.

EMERGENCY RESPONSE PLANS

Those departments who choose to handle chemical spills themselves must follow stringent requirements. Very specific training is necessary when preparing to handle emergency chemical releases. Training levels range from awareness training for first response to technical training for those with responsibility for solving problems associated with spill cleanup.

The following information in this chapter outlines some considerations in handling a chemical spill emergency and **assumes that appropriate training has occurred.**

YOUR ROLE IN THE EVENT OF A SPILL

Whether it's a solid or a liquid spill, remember that you can be exposed to toxic dust or vapor without even knowing it. If you are properly trained, respond to a hazardous chemical spill with care and speed. However, if you have not received training, get to a safe place and sound an alarm according to established policy. At the least, a supervisor should be notified. Cooperate with the emergency response team.

KNOW POTENTIAL HAZARDS.

The material safety data sheet (MSDS/SDS) is one of your best sources of information on the chemicals used in your area. The emergency response team needs to have MSDS/SDSs at hand before responding to a spill.

KNOW ABOUT SPILL EQUIPMENT.

The response team knows where the emergency equipment is and how to use it.

KNOW THE LOCATION OF FIRE EXTINGUISHERS

Many chemicals are flammable or create a flammable product when mixed. In most cases of fire, you should get yourself and others out of the work area quickly and call for help. Trained employees use an appropriate fire extinguisher only if the fire is contained and is not rapidly spreading.

KNOW THE LOCATION OF EMERGENCY EXITS.

Make sure you know how to get out of your work area or the building quickly if necessary. Keep aisles clear so that you and co-workers are not endangered because of a slow exit from the scene of a toxic spill.

KNOW FIRST AID OR WHERE TO GET IT.

Know the general first aid rules and what the MSDS/SDSs say about first aid for the particular substances you work with.

THE EMERGENCY RESPONSE TEAM

Members of an emergency response team go through training on:

- Personnel roles.
- Communications.
- Lines of authority.
- Emergency recognition and prevention.
- Places of refuge.
- Site security.
- Evacuation routes.
- Emergency medical care.

The object is for the team to perform its job with minimal risks. Team members must know the limits for themselves and their equipment. They need to know how to safely avoid or escape emergency situations. Members of the response team use the buddy system - they never enter a chemical emergency situation alone.

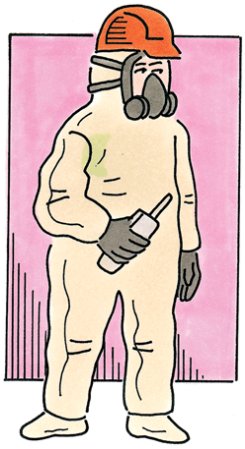
EVACUATION DURING SPILL RESPONSE

Response team leaders will consider evacuation as soon as a spill is evaluated. The decision to evacuate will depend on the chemical and the hazards involved.

Evacuation can be as simple as clearing people from the immediate area of the spill or as complicated as total evacuation of the workplace, surrounding area, and community. In total evacuations involving the community, proper public safety personnel must be involved.

PPE FOR CHEMICAL HANDLING

The hazardous chemicals used at your plant or work site determine the level of personal protective equipment (PPE) and clothing. Emergency response team members receive necessary instruction and training on PPE and clothing.



The Environmental Protection Agency has set four levels of personal protection, A through D, with A providing the most protection:

- ***Level A*** PPE consists of the most protective type of respirator; a fully encapsulating, chemical-type resistant suit; inner and outer rubber gloves; rubber boots and steel toe safety boots; and a two-way radio. A hard hat may also be needed.
- ***Level B*** consists of the same type of respiratory protection as Level A; disposable, hooded chemical-resistant coveralls; rubber boots and steel toe safety boots; inner and outer rubber gloves; and a two-way radio. A hard hat may also be needed.
- ***Level C*** includes the same personal protective clothing mentioned for Level B, but with an air-purifying respirator.
- ***Level D*** consists of a basic work uniform that provides minimal chemical protection. Level D may be used where contamination is at nuisance levels only. Level D may include coveralls, eye protection, safety shoes, gloves, etc.

SPILL CARTS AND SPILL CONTROL STATIONS

To deal with spills and other accidents, spill carts and spill control stations are frequently used. Response team members know the location of the carts and stations. Keep them accessible and well stocked. Again, you will receive instruction and training as your job requires.

Typical items found in spill carts (or kits) and spill control stations are:

- Pillows, pads, or other materials designed to collect, neutralize, absorb, or suppress hazardous liquids while picking up a spill.
- Patch and plug kits.
- Brooms, shovels, mop, scrapers, squeegees, and buckets.
- Both acid and base neutralizers.
- Temporary warning labels.
- Tapes and barricades.
- Coveralls, goggles, and gloves.
- Salvage drums and waste containers.

The response team must make sure they have the supplies and equipment they need for the work area - and that they have adequate quantities.

DECONTAMINATION PROCEDURES

A decontamination plan needs to be part of every workplace's emergency response effort. Equipment and PPE must be decontaminated after use. Planning ahead makes sense. Dispose of chemically contaminated waste properly.

EMERGENCY FOLLOW-UP IS ESSENTIAL

Following an emergency, Human Resources must be notified of the incident. If the spill is significant, the National Response Center must be notified as well. The Environmental Protection Agency regulates chemical releases to the environment.

The final activity of the emergency response team is to review and evaluate all aspects of what happened and what may happen as a result. An account of the incident must be accurate, authentic, and complete, so be prepared to cooperate.

WORK AT WORKING SAFELY

Remember, the best accident and spill control is accident and spill prevention. But in the event of a spill:

1. Tell others a spill has occurred and help them get to safety.
2. Report the spill to management.
3. Don't ignore a spill. It can produce harmful or deadly vapors.
4. Don't endanger your own life. If fire or explosion seems imminent, get out of the work area.