**Chemical Spill Procedures**

Spill Response and Clean-up Procedures

In the event of a chemical spill, the individual should promptly clean up spill unless the event is of such a volume and toxicity that emergency response (outside help) must be summoned.

The following guidelines should be followed. More detailed procedures may already be in your location Chemical Hygiene Plan or Spill Response Plan.

* Immediately alert area occupants and supervisor and evacuate the area.
* Proceed with fire and medical attention first.
* Attend to any people who may be contaminated. Contaminated clothing must be removed immediately and the skin flushed with water for no less than fifteen minutes.

* Clothing must be laundered before reuse.
* If a volatile, flammable material is spilled, immediately warn everyone, control sources of ignition and ventilate the area.
* Don (put on) personal protective equipment, as appropriate to the hazards. Refer to the Material Safety Data Sheet or other references for information.
* Consider the use of respiratory protection. The use of a respirator or self-contained breathing apparatus requires specialized training and medical surveillance. Never enter a contaminated atmosphere without protection or use a respirator without training. If you use respiratory protection, be sure there is another person outside the spill area in communication, in case of an emergency.
* Use the chart below. If the spill is large and there has been a release to the area or if there is no one knowledgeable about spill cleanup available, contact your Emergency Response provider.

|  |  |  |  |
| --- | --- | --- | --- |
| Category | Size | Response | Treatment |
| Small | Up to 300 cc  Table top spill | Chemical treatment  or absorption | Neutralize or use absorption spill kit |
| Medium | 300 cc to 5 liters | Absorption | Absorption spill kit |
| Large | More than 5 liters | Call for emergency services | Outside help |

* Protect floor drains or other means for environmental release. Spill socks and pillows of absorbent material may be placed around drains as needed.
* Contain and clean up the spill, using the table above as a guide. Loose spill control material should be distributed over the entire spill area, working from the outside, circling to the inside. This reduces the chance of splash or spread of the spilled chemical. Bulk absorbents and many spill pillows do not work with hydrofluoric acid. Powersorb ® (by 3M) products will handle hydrofluoric acid. Specialized hydrofluoric acid kits are also available. Many neutralizers for acids or bases have a color change indicator to show when neutralization is complete.
* When spilled material has been absorbed, use a brush and scoop to place materials in an appropriate container. Polyethylene bags may be used for small spills. Five gallon pails with polyethylene liners may be appropriate for larger quantities.
* Label the waste; identify it as spill debris, chemical name and hazardous. This waste will be disposed of as hazardous waste.
* Decontaminate the surface where the spill occurred using a mild detergent and water when appropriate.

**Developing a Spill Response Plan**

An effective spill response procedure should consider all of the items listed below. The complexity and detail of the plan will depend on the physical characteristics and volume of material being handled, their potential toxicity, and the potential for releases to the environment.

* Review the MSDS or other references for recommended spill cleanup methods and materials, and the need for personal protective equipment (e.g., respirator, gloves, protective clothing).
* Acquire sufficient quantities and types of appropriate spill control materials to contain any spill that can be reasonably anticipated. The need for equipment to disperse, collect and contain spill control materials (e.g., brushes, scoops, sealable containers) should also be reviewed. Recommended Spill Control Materials will be discussed in more detail below.

* Acquire recommended personal protective equipment and training in its proper use. Respiratory Protection must be provided which includes training, fit testing.
* Place spill control materials and protective equipment in a readily accessible location within or immediately adjacent to the laboratory.
* Develop a spill response plan that includes:
* Name and telephone number of individuals to be contacted in the event of a spill
* Evacuation plans for the room or building as appropriate
* Instructions for containing the spilled material, including potential releases to the environment (protect floor drains)
* Inventory of spill control materials and personal protective equipment
* Means for proper disposal of cleanup materials including contaminated tools and clothing
* Decontamination of the area following clean up
* Discuss the spill response plans with all employees in the area.

**Recommended Spill Control Material Inventory**

Your laboratory or work area should have access to sufficient quantities of absorbents or other other types of material to control any spill that can be reasonably anticipated.

**Personal Protective Equipment**

* Chemical splash goggles
* Chemical handling gloves
* Shoe covers
* Plastic or Tyvek® aprons or Tyvek® suit

**Absorptions Materials**

* Spill pillows and spill socks – available from several sources including 3M (Powersorb®)
* One – 5 gallon pail with polyethylene liner prepared with loose absorbent in bottom of pail.

**Neutralizing Materials**

* Acid Neutralizer
* Caustic Neutralizer
* Solvent Neutralizer

**Mercury Spills**

* Hg Absorb Sponges – amalgamate mercury residue
* Hg Absorb Powder – amalgamates mercury
* Hg Vapor Absorbent – reduces concentration of vapor in hard to reach areas
* Mercury Indicator – powder identifies presence of mercury.

**Clean-Up Tools**

* Polypropylene scoop or dust pan
* Broom with polypropylene bristles
* Polypropylene bags
* Sealing tape
* pH test papers
* Waste stickers
* Signage

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