

## Chemical Spill Basics

Hazardous material spills that do not harm people in the immediate area may be cleaned up by staff who have been trained and are properly equipped to clean up the spilled material safely. Hazardous material spills that can't be safely adsorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area require outside assistance by the Fire Department and possibly a spill cleanup contractor. When in doubt about whether you need help or not, it is best to call for help. **When you need emergency help, do the following:**

- Alert others and evacuate all affected areas.
- Pull the fire alarm if needed or report the incident to the police
- The incident may require use of a spill clean up contractor
- Ensure no one else enters the area!

## Major Chemical Spills

**Pull the Fire Alarm or call 911**

A major chemical spill is:

1. One that has caused injury to personnel or is likely to cause injury, or
2. Uncontained and spreading out of the immediate area, or
3. Has the potential to cause a fire.

Pull the fire alarm if someone has been injured. This is the fastest way to get help and alert others nearby of the emergency.

## Minor Chemical Spills

Laboratory employees are responsible for minor spills of the chemicals they commonly use. Cleanup of minor spills is part of managing your laboratory chemicals properly. Wear the appropriate personal protective equipment (e.g., gloves, goggles) when cleaning up spills.

**If you can answer YES to the following 4 questions, it is safe for you to clean up the spill:**

1. Do you know what chemical was spilled?
2. Do you know the hazards of the spilled chemical?
3. Do you have a chemical spill kit?
4. Can you protect yourself from these hazards?

If you answered NO to any of the above questions or need assistance with the spill cleanup, evacuate the area and call for assistance. You may need to bring in an outside Hazardous Materials Contractor to do the cleanup for you.

**Example:** A spill of 1 Liter of 6 Molar sodium hydroxide may be minor, 1 Liter of 6 Molar ammonium hydroxide is usually a major spill because of choking corrosive vapors.

## Chemical Spill Kits

All laboratories must have spill clean up materials available. Spill kits and replacement parts are available through companies such as Laboratory Safety Supply (see CD for website)

### 1. Acid Spills

- Apply sodium bicarbonate to perimeter of spill.
- Mix thoroughly until fizzing and evolution of gas ceases. NOTE: It may be necessary to add water to the mixture to complete the reaction. Neutralizer has a tendency to absorb acid before fully neutralizing it.
- Check mixture with pH indicator paper.
- Scoop up, rinse down drain to sanitary sewer or put in plastic bag and dispose as solid waste.

### 2. Solvent Spills

- Apply activated charcoal to the perimeter of the spill.
- Mix thoroughly until material is dry and no evidence of solvent remains.
- Transfer absorbed solvent to a plastic bag, tie shut, fill out and attach a waste label, and place in five-gallon paint bucket for disposal as hazardous waste.

### 3. Mercury Spills: (note: schools can not contain bulk mercury or mercury compounds)

- Scoop up free droplets with small dust pan and squeegee
- Amalgamate remaining mercury with granular activated zinc.
- Dampen the mercury sponge with water, then wipe the contaminated area.
- Do this procedure slowly to allow for complete absorption of all free mercury. A silvery surface will form on the sponge.
- Place the contaminated sponge in its plastic bag, tie shut, fill out and attach a waste label, and place in a fume hood. Dispose with hazardous waste contractor
- **NOTE: Never, ever, use a vacuum to clean up a mercury spill!**

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### Example Spill Clean-up Supplies

- Spill pads, universal for solvents
- Box of baking soda or neutralizing sorbents for acids and bases
- 20" x 30", heavy duty (6mm) plastic bags for holding contaminated spill supplies
- Five-gallon reusable screw top plastic drum. Good to store all kit supplies and later used to hold bagged plastic spill waste for pickup
- Dust pan and whisk broom
- Hazardous waste labels
- **NOTE:** Respirators may be needed for spill clean up. Their use requires medical evaluation, training, & fit testing. Not trained & fit-tested? Don't use a respirator.