



Case Department of Occupational and Environmental Safety

“SAFETY COMES FIRST”

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Chemical Spill Response

A sudden movement. A slip of the hand. And a beaker crashes to the floor, breaking and spilling its contents everywhere. You stare blankly. What do you do? How do you respond? Below are some general spill response procedures as well as guidelines for cleaning up a few specific chemicals.

General Chemical Spill Response

If an accident involving a hazardous chemical occurs, **the area must be evacuated**. Do not reenter the area until the hazard is assessed, and then only if it is safe to do so. **The importance of getting everyone out of the lab cannot be overemphasized**. The only justification for re-entering would be to save a life or to prevent a fire or explosion. **DOES must be informed immediately of all spills -- call us at x2907 if a spill occurs. After 5 pm, call Security at x3333.**

Spill Kits: Every laboratory should have their own spill kit, suitable for cleaning up typical laboratory spills, and its location should be known to everyone in the lab. You can either buy one or create your own. A spill kit should contain the following items:

- spill pillows
- a silicon-based absorbent such as Oil-Dry, kitty litter, or vermiculite
- dust-pan
- broom or brush
- plastic bags
- waste labels
- rubber gloves
- rubber boots or foot protectors

Chemical Spill Response (continued from front page)

“If an accidental release involving a hazardous chemical occurs, the area must be evacuated. Do not re-enter the area until the hazard is assessed, and DOES has confirmed it is safe to do so. The importance of getting everyone out of the lab cannot be overemphasized.”

- chemical splash goggles

*REMEMBER: Used spill kits and materials should be treated/disposed of as hazardous waste.

Specific Chemical Spill Response

Acids: Use an absorbent material to neutralize the acid. Commercially marketed acid neutralizers or sodium bicarbonate powders both work well. Sand can be used but is not as effective. After the acid has been neutralized, scoop everything into a plastic bag and prepare it for disposal.

Flammable Solvents: First, turn off all spark-producing equipment. Then, using an absorbent from the spill kit listed above, begin pouring around the perimeter of the spill area and proceed toward the center. Again, sand is fairly ineffective. Scoop up the absorbent and place it in a plastic bag for disposal.

Bromine: Use a sodium thiosulfate solution (5-10%) to react with the bromine. DO NOT use ammonium hydroxide, as an explosion can result from mixing any halogen with ammonia. A respirator must be worn during clean-up.

Acid Chloride: Use calcined absorbent products such as Oil-Dry, Zorb-All, or dry sand.

Alkali Metal: Smother the spilled metal using Met-L-X Yellow Extinguisher and remove it to a safe location where it can be disposed of by reaction with a dry secondary alcohol. Quickly remove any metal particles splattered on the skin and then flush with water.

Hydrazines: Flush the contaminated area with water. Do not use anything contaminated with organic materials as an absorbent. After flushing with water, call DOES to assist with the clean-up.

These are just basic guidelines. If you have any doubt about how to handle a spill, call us before doing anything and have as much information as possible concerning the nature and potential hazard of the spill. For more information, see the Chemical Safety Manual. And remember: ALL spills must be reported to DOES.

REMEMBER

ALL spills must be reported to DOES (x2907) immediately. After normal working hours, Security (x3333) must be notified and a representative from DOES will follow up with you.

Fall Preparations—Is Your Lab Ready for the Fall Semester?

The summer is over and classes have begun—but how prepared are you? If you run a lab, then chances are you will have new students, new teaching assistants, and maybe even new full-time employees. Or maybe you to Case. If so—welcome!

To get ready for the new school year, the first thing to do is to make sure that your entire staff is properly trained. All new employees must be trained by DOES. If you are a new employee or find yourself in a new workplace environment, don't wait for someone to tell you to get trained—take responsibility and make sure you are properly trained to handle the possible safety hazards you might face. The Safety Office offers training sessions in Radiation, Chemical, Laser, and Bloodborne Pathogens (BP) Safety. Radiation and BP Training sessions are subdivided into "New" and "Retraining" sections, so sign-up for the appropriate session based on your training status (which can now be checked by entering your social security # as a code on the DOES homepage at <http://does.case.edu>).

DOES also provides X-ray Training for specialty radiation workers. Remember, if you are not trained in these areas and you are performing duties which involve these materials, you are out-of-compliance with both Federal and State requirements for safe work practices. Call us immediately (x2907) to sign up for a training session to avoid this problem. Times are frequent and sessions are designed to provide you with practical means of applying safety techniques to better deal with hazardous materials and procedures. Visit our website for a complete schedule of training session dates and times or call our department (x2907). For your convenience, training sessions are also listed in this newsletter on page 7.

Another way to prepare your lab for both workers and students is to stranger proof it. You probably spend most of your days there, so **you** know where and what everything is—but do not assume that other people will also. Go through your lab and make sure everything is (properly) labeled and correctly shelved, sealed, and signed. When there are hazardous materials and items which might be misused, unidentified, or misshelved, this extra step of preparedness is a must. Also, familiarize your lab with our newsletter. If you keep the old copies in a file or binder (which is a good idea) leave some time for your staff to leaf through them, or, direct them to our website at <http://does.case.edu> where an archive exists of our past issues. Of particular interest might be our February/March 2005 issue that addressed proper waste disposal in laboratory environments.

Along these lines, take some time in these beginning weeks to go over simple procedures for dealing with topics such as small spills, waste reduction, and fire safety. Consult the appropriate D.O.E.S. Safety Manual(s) for details. Finally, make sure your new employees (and you) know who we are—when you spot a D.O.E.S.

“To get ready for the new school year, the first thing to do is to make sure that your entire staff of personnel is properly trained. All new employees must be trained by D.O.E.S. If you are a new employee or find yourself in a new workplace environment, don't wait for someone to tell you to get trained—take responsibility and make sure you are properly trained to handle the possible safety hazards you might face.”

Putting Trash in Its Place: Some Key Reminders for Proper Laboratory

One person's garbage is another person's treasure, so the saying goes. As we all know however, some trash is potentially dangerous when disposed of improperly. While everyday, commonplace trash such as paper and beverage containers presents few logistic problems for disposal, "sharps," or anything that can puncture a person's body, can present obvious hazards. Moreover, many common chemicals and electrical devices have multiple toxins in them that must be disposed of properly. Here at Case Western Reserve University, there are specific guidelines in place to ensure the appropriate disposal of these potentially dangerous materials. Below are some of the key factors to remember before you decide to dispose of any refuse from your laboratory:

1) There are many items that cannot be disposed of in the trash. The following items SHOULD NEVER be thrown into the trash bins:

- Oil-based paints*
- Mineral spirits (paint thinners)*
- Latex paints*
- Fluorescent lamps/incandescent lamps*
- Ballasts (electronic and PCB)*
- Electronics (e-waste)*
- Batteries*
- Sharps (see extended instructions regarding these below)
- Oil
- Chemicals
- Pesticides
- Aerosol Cans
- Thermometers/Mercury thermostat switches/mercury switches

*Items that can be recycled through Plant Services.

2) Make sure all refuse is disposed according to its proper designation in the color-coded trash disposal system. For example, it should be separated as Biohazardous or Infectious Wastes, Sharps, Uncontaminated Lab Waste, Chemical Waste, Radioactive Waste, and ordinary trash.

3) Anything that is a "sharp," such as broken glass, is capable of causing puncture wounds or cuts and thus should NOT be placed in the soft waste containers. *Biohazardous sharps*, i.e., discarded hypodermic needles, syringes, scalpel blades, cannulas, coverslips, microscope slides, all pipettes (glass or plastic) and pipette tips, test tubes, glass Petri dishes, and other materials designed for use in biological, etiological, bacteriological, should also not be placed in the soft waste containers.

Putting Trash in Its Place: Some Key Reminders for Proper Laboratory

- 4) Any item(s) that can puncture the soft waste containers but is not considered a sharp (so-called “pseudosharps”) should NOT be placed in the soft waste bags (*This includes disposal auto pipette tips*).
- 5) Custodial Services, as well as our two custodial contractors, WILL NOT PICK UP TRASH VIOLATING THESE FIRST TWO RULES. Custodial Services is being told **not** to touch bags or trash receptacles containing inappropriate trash.
- 6) In the case that these two rules are violated, the trash will remain at the offending laboratory and the Custodial Supervisor, Protective Services, and DOES will be notified. The problem will then be brought to the attention of the laboratory supervisor.
- 7) One of our most pressing concerns is the growing amount of electronic waste. All computers and most electronic equipment (lamps, etc.) contain a variety of toxic materials including lead, cadmium, and mercury. A lamp can contain from .06mg or more mercury depending upon its type. Moreover, the average computer may contain up to eight pounds of lead! When possible, recycle all computers. Do not place them with regular trash.
- 8) Fluorescent Bulbs: All fluorescent bulbs contain a small amount of mercury and lead; therefore, fluorescent bulbs should not be thrown in the ordinary trash. When plant services comes to replace the bulbs, they will pick up the used bulb. If a bulb has already broken, exercise some caution when cleaning it up (use gloves). Place the shards in an air tight container and notify DOES (368-2907). If Plant Services will not accept a lamp, then treat it as a chemical waste and follow chemical waste protocols.
- 9) Do not throw your trash from home in the dumpsters.
- 10) Solid waste can be discarded in the standard trash bins, if it is not judged to be “laboratory waste.”



Radiation Shielding Available Free of Charge

With recent decommissionings of Radiation PIs at Case, the Radiation Safety Office at DOES has an abundant inventory of available shielding, free of charge, to any radiation laboratory needing it. The inventory includes plexiglass dry waste containers in a variety of sizes, lead waste containers, liquid waste containers, stand-up plexiglass shielding, as well as a variety of other plexiglass pieces. If your radiation laboratory is in need of shielding, please contact Joanna Bielawski at 368-4601 or jxb153@case.edu to schedule a time to view the inventory.

Fall Preparations—Is Your Lab Ready for the Fall Semester?

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...staff member making his or her way around your lab or building, meticulously working to help insure your personal safety, don't be afraid to stop them and introduce yourself. We are happy to meet you and answer any questions you might have. Have a safe Fall semester by training, practicing, and leading by example. Together, we can make Case a safe learning environment for all.

*Upcoming Training Sessions**

IMPORTANT NOTE: While all laboratories must attend training at DOES, labs must hold specific training in the CHP and ECP as it pertains to the actual work they do. Labs will also need an outline of the CHP and ECP training and a sign in sheet to accompany. Store the sign-in sheet and outline with the CHP and ECP. IT will be asked for during lab inspections.

New Hazard Communication (Right-to-Know) Training

Retraining is required annually.

DOES Small Meeting Room - Service Building 1st Floor

PREREGISTRATION IS REQUIRED! - Please call 368-2907

*As always, consult our website (<http://does.case.edu>) for a full schedule of training sessions

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*Upcoming Training Sessions**

New Radiation Safety Training

Retraining is required annually.

DOES conference room - Service Building 1st Floor

PREREGISTRATION IS *REQUIRED* ! - Please call 368-2906

New Laser Safety Training

Retraining is required annually.

DOES conference room - Service Building 1st Floor

PREREGISTRATION IS *REQUIRED* ! - Please call 368-2906

FOR THE FOLLOWING CLASSES:

Laboratory Safety Retraining
Regulated Chemical Retraining
Hazard Communication (Right-to-Know) Retraining
Bloodborne Pathogen Retraining
Radiation Safety Retraining
Laser Safety Retraining
Respirator Safety Retraining

Please retrain on the Internet at <http://does.case.edu> and click on Training.

Print test and fax or mail it to the DOES office.

If your training is more that one year overdue, then you must attend the training class in person and can not retrain online.

FOR THE FOLLOWING CLASSES:

New Laboratory Safety Training
New Regulated Chemical Training (Formaldehyde, Benzene, Methylene Chloride, Vinyl Chloride, etc.)
New Bloodborne Pathogen Training
New Respirator Safety Training
New BSL-3 Safety Training

Retraining is required annually.

DOES Conference Room - Service Building 1st Floor

PREREGISTRATION IS *REQUIRED*! - Please call 368-2907

***As always, consult our website (<http://does.case.edu>) for a full schedule of training sessions**

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Chemical Safety (OSHA Lab Standard Training)

Please call 368-2907 to preregister for this class.

Class Objective: To train all university personnel using hazardous chemicals in a laboratory setting in basic chemical safety principles and the requirements of the OSHA Laboratory Standard 1910.1450.

Class Frequency and Time: The class is offered every Tuesday from 1:00 to 3:00 pm. Also additional classes are available.

Location: The class is held in the DOES conference room in the Service Building First Floor unless otherwise specified in the calendar.

Again, for a complete listing, please consult the DOES website at...

<<http://does.case.edu/>>

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