

# Department of Occupational and Environmental Safety NEWSLETTER

August 1996

CASE WESTERN RESERVE UNIVERSITY

VOL. 5 NO.6

## Chemical Storage? Not in Fume Hoods!



During recent inspections, our technicians have found many laboratories that are storing some chemicals in the fume hoods. This practice is against OSHA regulations and must be discontinued.

The presence of chemicals not in use in the fume hood presents a serious hazard if you are running an experiment. Their presence can interfere with proper ventilation and air velocity by creating eddys in the air flow. The purpose of the fume hood—to draw harmful fumes away from the worker—is therefore compromised.

The fume hood cannot be used as waste storage either. Store your waste in the cabinet under the fume hood or in some other cabinet, not on the floor.

There is an exception. If you wish to use your fume hood as a storage facility, you must designate it as such; post a sign on the hood reading "FOR STORAGE ONLY" and notify DOES (x2907) that you have done so. Thereafter the hood cannot be used in any other capacity.

If you are conducting an experiment in the fume hood, you may keep the necessary chemicals in the hood—they are not considered storage if they are currently in use.

For radioactive materials this policy changes

*(continued on p.4)*

### REMINDER!

#### D.O.E.S. HOME PAGE

The DOES Home Page is a great way to get up-to-the-minute information about safety-related issues. Much of the information can



be quickly downloaded so your lab can always have the necessary documents on hand. We have our own server now, so connecting is easy. Just type in: <http://does.cwru.edu>.

Some of the things on-line include:

- both the Chemical and Radiation Safety Manuals
- a variety of necessary forms
- previous editions of the newsletter.

*See you there!*

### In This Issue:

Chemical Storage?	
Not in the Fume Hood . . . . .	1
Reminder: DOES Home Page . . . . .	1
Laboratory Waste: What Goes Where? . . .	2
Recycling Anyone? . . . . .	2
Lab Wear Outside the Lab . . . . .	3
Hot Tips: Pregnant Radiation Workers . . .	3
Safe Chemical Storage . . . . .	4



## **What WASTE!**

### **Laboratory Waste: What Goes Where?**

Institutions like CWRU, which produce diverse types of waste and lots of it, know that waste disposal involves more than what meets the eye. Waste generated at CWRU—from “sharps” to notebook paper—must be carefully segregated in order to ensure disposal in an environmentally sound way.

At the most basic level, there are two types of waste for disposal:

- 1) contaminated or biohazardous waste, disposed of in red biohazardous containers, either in rigid boxes if it is “sharps” or bags if not, and
- 2) uncontaminated lab waste, to be disposed of in black bags.

A fuller explanation of what goes where in the world of waste is given below.

**BIOHAZARDOUS WASTE:** all non-sharp infectious waste such as plastic petri plates; plastic tissue culture vessels containing media, cultures and stocks of infectious agents; devices used to transfer, inoculate or mix such agents; and paper or cloth material contaminated with these agents.

All waste of this sort must be sterilized prior to disposal. Each researcher is responsible for treating waste as close to the point and time of waste generation as possible.

Biohazardous waste must be autoclaved in red bags labeled with the international biohazard symbol. After sterilization is complete, mark “Sterilized” on the bag and tag it with the Investigator’s name and the date of sterilization. These bags must remain in the lab for pick-up.

*(continued on p.5)*

## **Recycling Anyone?**

The Department of Occupational and Environmental Safety maintains a 50 liter spinning band still capable of recycling solvents to a near-pure form. To get the best results, the components of the mixture should have boiling points at least 15 degrees Farenheit apart or greater. Mixtures being run on a continuous basis include acetone and water and methyl isobutyl ketone, acetic acid, and water.

If you have quantities of a solvent mixture that you believe could be recycled, please contact DOES at x2907. Ideally, we are looking for solvent mixtures of 20 liters or greater, comprised of no more than two solvents that meet the boiling point separation limit of 15 degrees Farenheit.

Recycling these materials is free of charge and is essential in reducing the amount of hazardous substances introduced into the environment. Please consider it for your lab.

### **Upcoming Training Sessions**

**IMPORTANT!** Due to capacity constraints, some Radiation Retraining classes may be held in locations other than the DOES conference room. It is very important that you call our office to sign up for the class and at that time verify the location of that particular training session.

#### **Radiation (x2906)**

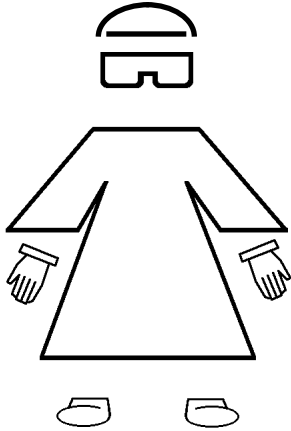
- New Training:** Aug.6 (9-12), 15(1-4), 28(9-12)
- Retraining:** Aug.7 (2-3), 16(10-11), 28(2-3)
- X-ray Training:** call office to set up training session

#### **Chemical (x2907)**

- OSHA Lab Standard:** Mondays 1-3 (DOES Conference Room)

#### **Bloodborne Pathogen (x2907)**

- New Training:** Mondays 3-4:30 (DOES Conference Room)
- **Retraining:** Aug.6 (3-4), 21 (10-11)



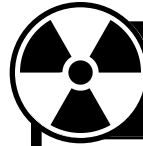
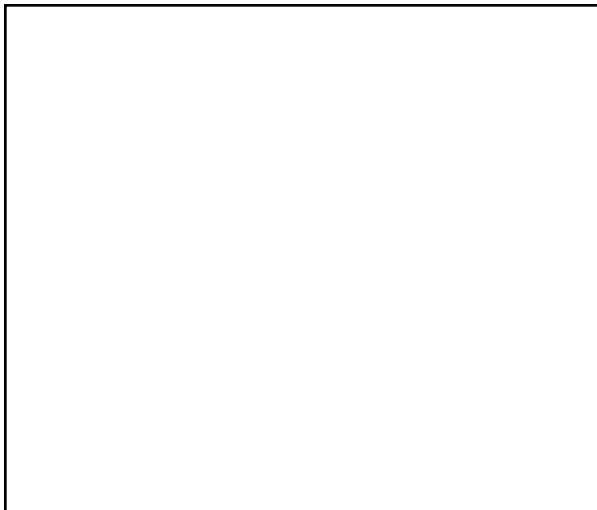
## Lab Wear Outside the Lab

Personal protective equipment (PPE) includes anything that protects your body from potential hazards in the lab. The most commonly worn PPE consists of gloves, lab coats, protective footwear, and protective eyewear. Because these items are protective equipment, they should not be worn outside the lab area. We have found many people wearing PPE, gloves and footwear especially, when they are not in their lab. This action is considered a "perceived hazard" and is therefore against OSHA regulations.

If your gloves have done their job, then they might be carrying around some sort of potentially hazardous material. After all, that's why you put them on in the first place—just in case. So please remove them—and with it the potentially harmful material—before you leave your lab. Remove them even if they are clean or you did not work with any hazardous materials. The reasoning behind this premise is simple: you may know that the materials with which you have been working are not hazardous, but others around you do not, and this sort of uncertainty can easily erupt into unnecessary concern.

Removing gloves and other PPE when leaving the lab greatly reduces the chances of contamination, as well as

contributes to the peace of mind of others. Thank you for your cooperation.



## HOT TIPS



### Pregnant Radiation Workers

Any pregnant radiation worker who plans to continue working with radioisotope during the pregnancy should inform the Radiation Safety Office and her supervisor in writing of her pregnancy with the estimated date of conception. The declaration lowers the permissible dose limits from 500 mRem per year to 500 mRem for the entire gestation period.

Upon declaration, the worker will receive a fetal badge to be worn at the waist in addition to her quarterly badge. The embryo/fetus dose limit after declaring pregnancy is approximately 50 mRem per month. Fetal badges are exchanged monthly by the Radiation Safety Office.

Declaring one's pregnancy is voluntary; however, it is strongly encouraged. Receiving a fetal badge in addition to your whole body badge is also voluntary, but it more accurately reflects the fetal dose. Otherwise, your highest badge reading is automatically assigned to the fetus. Even if you choose not to wear a fetal badge in addition to your body badge, notify us of your pregnancy so we can monitor your quarterly badge in accordance with fetal/embryo exposure limits.

Contact the Radiation Safety Office (x2906) if you have any questions or would like a current copy of the NRC Regulatory Guide 8.13, "Instruction Concerning Prenatal Radiation Exposure."

## Safe Chemical Storage

Storing chemicals in the lab can be a tricky business—amounts of toxic, flammable, or highly reactive chemicals all in one place is a potential time bomb. While there are no arbitrary rules that apply to every lab, here are some general guidelines aimed at reducing the amounts of unsafely stored and unnecessary quantities of dangerous chemicals in the lab.

- Every chemical should have a defined storage space and should be returned there after every use. This cuts down on any confusion between lab users. Make sure these spaces are well-known or labelled.

- Do not store chemicals on bench tops, where they can be easily knocked over. Also, this leaves them very unprotected in case of fire.

- Do not store chemicals in fume hoods—this interferes with the air flow in the hood, clutters up working space, and increases the amount of materials that could become involved in a hood fire (*see related article on p. 1*).

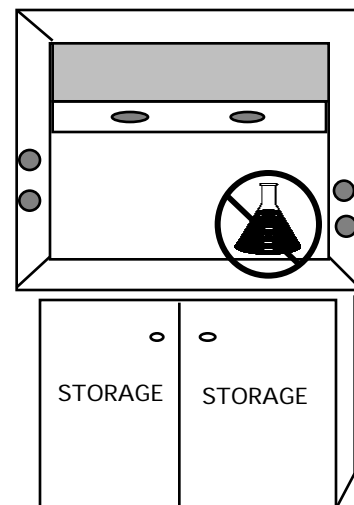
- Use storage trays or secondary containers when distributing the chemicals; this cuts down the amount of chemical wasted if a container leaks or spills. Perchloric acid should be kept on glass or ceramic trays of sufficient capacity to hold all of

## Chemical Storage? Not in Fume Hoods!

(continued from p.1)

slightly. Any volatile radioactive material should be stored in the hood; the most common material in this category is I125. Any potential contamination can therefore be siphoned out of the lab. I125 radioactive waste should also be kept in the hood.

Please do not continue the unsafe work practice of storing chemicals in the fume hood. Call Safety Services (x2907) if you have any questions about proper and safe chemical storage.



the acid in case of breakage.

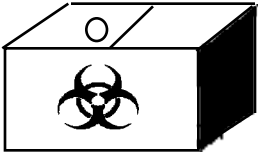


- Laboratory refrigerators should be used to store chemicals ONLY; food should never be stored here.

- All chemical containers should be properly labelled (new bottles as well as temporary containers). Include the following information: name, PI, date, contents, purity, location, hazards (if known).

- Store chemicals according to compatibility—this reduces the amount of damage that can occur if one of the containers fails. Within hazard classes, chemicals may be stored alphabetically.

We recommend that you regularly go through your chemicals to make sure all is in order: any loose labels are fixed, chemicals are in the right places, chemical containers have maintained their integrity.

## CWRU WASTE DISPOSAL PROCEDURES

	SHARPS	BIOHAZARDOUS LAB WASTE	UNCONTAMINATED LAB WASTE
<b>Type of container</b>	rigid box (red for biohazardous sharps) 	red bag 	black bag 
<b>Definition</b>	hypodermic needles, syringes, scalpels, cannulas, microscope slides, coverslips, razor blades, all pipettes, broken glass, or any other item which may cause a puncture wound or cut whether contaminated or not.	all non-sharp infectious waste such as plastic petri plates; plastic tissue culture vessels containing media, cultures and stocks of infectious agents; devices used to transfer, inoculate or mix such agents; and paper or cloth material contaminated with these agents.	all other laboratory waste that has not been contaminated by radioactive, chemical or infectious agents such as petri plates, paper cloths, gloves, tubing, non-sharp lab wastes, empty chemical containers, as well as "ordinary trash" like packaging materials and cardboard.
<b>For pick-up</b>	Non-radioactive sharps: call Security at x6299 before 4:00 for an evening pick-up. Radioactive sharps: call Radiation Safety (x2906).	Call Security at x6299 before 4:00 p.m. for an evening pick-up. This waste must be sterilized prior to disposal.	Custodial

### Laboratory Waste: What Goes Where?

Call the Security at x6299 before 4:00 for an evening pick-up.

**SHARPS:** hypodermic needles, syringes, scalpels, cannulas, microscope slides, coverslips, broken glass, razor blades, and all pipettes.

All sharps must be disposed of in puncture-proof containers. Contaminated sharps must be disposed of in a red, rigid, plastic SHARPS container. All discarded hypodermic needles, syringes, cannulas and scalpels, whether or not they are contaminated, must also be disposed of in a red, rigid, plastic SHARPS container.

All other perceived sharps that are not contaminated—microscope slides, coverslips, broken glass, pipettes, or any other item which may

cause a puncture wound or cut—may be disposed of in a puncture-proof cardboard box. This box must clearly be labeled "SHARPS" so that everyone is aware of the contents.

For pick-up of non-radioactive sharps call Security at x6299 before 4:00 p.m. for an evening pick-up. For pick-up of radioactive sharps, call the Radiation Safety Office (x2906).

**UNCONTAMINATED LABORATORY WASTE:** all other laboratory waste that has not been contaminated by radioactive, chemical or infectious agents such as petri plates, paper cloths, gloves, tubing, non-sharp lab wastes, empty chemical containers, as well as "ordinary trash" like packaging materials (such as empty Fisher

(continued on p.6)

## Lab Waste: What Goes Where?

*(continued from p.5)*

pipette containers) and cardboard.

This waste should be disposed of in black bags and can go out as general trash to be picked up by the custodial staff.

Recyclable goods such as paper, glass, cans, and plastics should be disposed of in specially marked green or blue bins.

Previously, ordinary trash had to be placed in separate clear bags. Now this is no longer necessary—ALL general uncontaminated laboratory waste can be disposed of together in black bags.

Questions concerning proper disposal should be addressed immediately— call the Department of Occupational and Environmental Safety (x2907) with any specific needs or problems. It is vital that waste at its source—in the lab—be properly prepared for disposal.

### Department of Occupational and Environmental Safety Staff

Dr. W. David Sedwick, Director and RSO  
Richard Dell, Manager, Safety Services  
Richard Harley, Loss Prevention Specialist  
Karl Von Ahn, Assistant RSO  
Shirley Mele, Dept. Administrator  
Gwendolyn Cox-Johnson, Dept. Assistant  
Cheryl Palfalvi, Dept. Assistant  
Carla Kungl, Technical Writer

#### Safety Technicians

Robert Armstrong  
Todd Crawley  
Robert Latsch  
Marc Rubin

#### Radiation Safety Technicians

Karen Janiga  
Joe Nikstenas  
Felice Thornton  
Yelena Tigay  
Edward Traverso  
Shirley Xu

