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Department of Occupational and Environmental Safety NEWSLETTER

September-October 1998 CASE WESTERN RESERVE UNIVERSITY VOL. 7 NO.5

Annual Fall Certification of Laminar Flow Hoods & Biological Safety Cabinets

Annually, Safety Services contracts with a commercial vendor to inspect and certify all of the laminar flow hoods and biological safety cabinets on campus. If your lab has a hood of this type, you must make an appointment with Safety Services to get it certified.

This year, Micro-Clean, Inc. will be at CWRU during the month of October. To schedule a time for your hood to be inspected, send an e-mail to the department (does@po.cwru.edu), providing us with the following information: Principal Investigator (PI), department, account number, contact person, phone number, and location of hood(s) and/or cabinets. Include any special scheduling requests such as a certain day or time.

Hood certification is a requirement of the OSHA Laboratory Standard and CDC/NIH protocols for containment of biohazards. The cost for the inspection and certification of biological safety cabinets is $135.00 and for laminar flow hoods $95.00.

If you have questions please contact Safety Services at 368-2907.

New Radioactive Waste Forms

The disposal forms for Radioactive Waste and Liquid Radioactive Waste will change, beginning next month. The new format will hopefully make the reporting requirements for both forms easier to understand. The form for Liquid Radioactive Waste especially has been revamped to make it more distinct and to reduce confusion (see page 4 for a sample).

Again, the required information for the forms has not changed: all departmental information must be filled out—items like the account number, contact person, and pick-up location—and each bag or bottle must be listed separately on the Radioactive Waste Form, along with the isotope and activity.

A Disposal Listing for Liquid Radioactive Waste form must be completed for each bottle of

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What WASTE!

Chemical Waste: Write it Out

When filling out a chemical waste disposal sheet, you must write out the chemical compound fully. Abbreviations or chemical formulas are not sufficient.

The only way to get proper waste information from the hundreds of labs on campus is to make sure everyone uses standard chemical names. Abbreviations for material can vary from lab to lab, as can handwriting, which makes chemical formulas very difficult to read. If the chemical compound is not written out fully, we have to call researchers for clarification, which slows down our office and may therefore delay waste pick-up.

Also, just as a reminder, approximated concentrations of each constituent must be listed. We ask that you convert percentage concentrations into liters or kilograms, since our computer program requires use of the metric system.

Proper and complete information is necessary in order for the university to comply with hazardous waste regulations. If you have questions concerning how to properly fill out a waste disposal sheet, or any other questions concerning waste disposal, please call our office (x2907).

HEY BIKE RIDERS!

While bicycles are a great way to get around on campus, some consideration should be given to where they are parked and/or stored when not in use.

Some buildings have outside racks to which the bikes can be secured; unfortunately, many do not. Most people, therefore, prefer taking their bikes inside for security and weather reasons. However, classroom, administrative, and other buildings do not have provisions for this indoor storage, and by bringing your bike inside, you potentially are blocking the safe means of egress for that building.

Some of these "no-no" parking spots include: stairways, landings, corridors, and in front of doors. Bikes also cannot block or impede access to safety equipment, i.e. fire extinguishers, fire hoses, alarm pull stations, or control panels. Bikes parked in these places will be removed—the lock will be cut and the bike will be confiscated and held by security.

Blocking or impeding access to a means of egress or to safety equipment is a violation of the Fire Safety Code (NFPA standard #101) and state and local fire codes. Please don't park your bike where it would be in violation of these codes. If the building to where you are going does not have a bicycle rack, park your bike at a building nearby, and ask the dean of your department to petition that a rack be placed near the building you occupy.

If you observe any improperly parked bikes or improperly placed bike racks, please call Safety Serivces at x2907 or Security at x3333.

Upcoming Training Sessions

Radiation (x2906)

- **New Training:** Oct 27(9-12); Nov 6(1-4), 17(1-4)
- **Retraining:** Oct 23 (10-11); Nov 3(2-3), 23(2-3)
- **X-ray Training:** call office to set up training session

Chemical (x2907)

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

Bloodborne Pathogen (x2907)

- **New Training:** Mondays 3-4 (Service Building Conference Room)
- **Retraining:** Oct 22 (10-11); Nov 4 (2-3), 20 (10-11) (Service Building Conference Room)

Safe Chemical Storage

Storing chemicals in the laboratory 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.

General Considerations

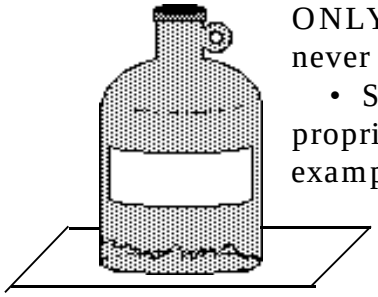
• Every chemical should have a defined storage space and should be returned there after every use. This cuts down on any confusion between lab users. Make sure these spaces are well-known or labeled.

• Do not store chemicals on bench tops, where they can be easily knocked over. This also leaves them very unprotected in case of fire. Do not store chemicals under sinks or on the floor for the same reason.

• 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.

• Use storage trays or secondary containers when distributing the chemicals; this cuts down the amount of chemical wasted if a container leaks or spills. Some particularly hazardous materials (perchloric acid, for instance) should be kept on glass or ceramic trays of sufficient capacity to hold all of the material in case of breakage.

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



• Store acids in appropriate cabinets—for example, leaky bottles of certain acids can cause metal

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HOT TIPS

Radioactive Waste Shredder

As many of you know, our department shreds radioactive waste to reduce its volume and help minimize the amount of waste needing disposal. After certain types of solid waste are decayed, e.g., pipette tips, plasticware, bench paper, and gloves, they are placed in the waste shredder, greatly reducing the wastes' volume before incineration.

There are a few things you can do in the laboratory to help make the shredding process more efficient:

1) Make sure all waste is properly segregated before you call DOES technicians for a pick-up. We shred the short-lived waste as soon as the isotope is decayed, and proper segregation ensures that this occurs as soon as possible. **Be careful not to carry out experiments with short-lived and long-lived isotopes on the same bench paper.** This causes short-lived waste to become contaminated with long-lived waste and can be a huge disposal expense.

2) "Segregation" means: to separate waste by isotope AND by physical form: acrylamide gels, dry / solid, liquid, vials, SHARPS, and animal. It often happens that in the lab, as waste accumulates over a period of weeks, these boundaries inadvertently get crossed; acrylamide, for instance, shows up in a solid waste container. Be conscious of this tendency and take time when disposing of waste.

3) Try not to "ball up" your latex gloves when removing them. These very often get stuck in the shredder and force technicians to stop operations. Survey gloves before removing them like you would any other article and dispose of them in the correct container.

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New Radioactive Waste Forms

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liquid waste, giving the isotope, amount, and chemical composition. A separate form must be completed for each container. This form remains with the container for segregation in processing.

Liquid waste must be recorded on the Radioactive Waste Disposal form as well—it is the form we use for data entry purposes, and if liquid waste is not recorded on it, we cannot enter the liquid waste onto our database. Your inventory would therefore be incorrect.

Other waste tips: remember that all waste should be tagged and taped and ready to be picked up BEFORE the waste technicians arrive. This way we can pick it up even if you are not there. If you need forms or bags call our office to make arrangements—these materials are here for you, but if you run out it is your responsibility to re-stock your laboratory.

We hope that these new forms make waste segregation and disposal procedures and requirments a little easier. If you have any questions about the new forms or other waste disposal procedures, please do not hesitate to call (x2906).

Example of the new form for Liquid Radioactive Waste. Liquid waste must be recorded both here (for processing) and on the main Radioactive Waste Disposal sheet (for data entry).

Radioactive Waste Shredder

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4) The same is true for you "self-compactors" out there—taping all of your waste together into small packages certainly saves space in the lab, but it is virtually impossible to run these tightly wadded balls of taped-up bench paper through the shredder. We have to undo all of your work once the waste is fully decayed. It's a nice thought, but one that is unfortunately poorly suited for our needs.

Shredding waste not only saves the University money, but it also greatly reduces the volume of waste that needs to be disposed of, a task that every environmentally-conscious program needs to conduct. If you have any questions about waste disposal, call us at x2906.

Safe Chemical Storage

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cabinets to rust. In general, it is good practice to store acids in plastic tubs or other secondary containers so that even if the bottles leak, the chemicals are contained.

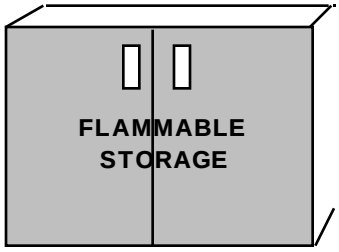
• All chemical containers should be properly labeled (new bottles as well as temporary containers). Include the following information: name, PI, date, contents, purity, location, hazards (if known).

• Store chemicals according to compatibility, not alphabetically—this reduces the amount of damage that can occur if one of the containers fails. Within hazard classes, they can be stored alphabetically.

Flammable Liquids

A "flammable liquid" is defined as a liquid with a flash point < 140° F. Below are storage requirements for flammable liquids.

• Quantities of flammable liquids greater than 1 liter should be stored in metal containers, preferably in portable approved safety cans.



• Small quantities of flammable liquids should be stored in ventilated steel storage cabinets.

• If flammables must be stored in wooden cabinets, use intumescent fire-retardant coatings to provide effective fire insulation.

• If greater that 2 gallons of flammable liquids will be stored longer than 8 hours, they must be stored in a flammable cabinet, not be left out in the lab.

• If you store flammables in a refrigerator, the refrigerator must be specially certified (that is, explosion-proof) for this job. They cannot be stored in a domestic refrigerator.

• Other things to consider when storing flammable liquids: make sure that aisles and exits are not blocked in case of fire, remove possible sources of ignition, and do not allow flammables to come into contact with strong oxidizing agents (chromic acid, chlorates, perchlorates, peroxides).

Toxic Substances

• Chemicals known to be toxic, including known carcinogens, should be stored in ventilated storage areas in unbreakable chemically resistant secondary containers.

• Only minimal working quantities of toxic materials should be present in the work area. They should be properly labeled as to their hazard i.e., CAUTION: HIGH CHRONIC TOXICITY or CANCER-SUSPECT AGENT. Storage areas should also have appropriate warning signs.

• Access to storage areas should be limited to approved personnel only. It is also important for storage areas to have adequate ventilation. Ventilation is particularly important for hazardous materials having a high vapor pressure such as bromine, mercury, and mercaptains.

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

Remember:

It is not safe to store chemicals alphabetically. Sort them by chemical class so that incompatible items aren't in close proximity.

Once chemicals have been sorted into their respecitve classes, they can be put in alphabetical order.

Remember! Check with us before Shipping

This is a reminder that Safety Services must be contacted prior to shipping animals, bacteria, chemicals, infectious agents, specimens or viruses. Your cooperation is essential in maintaining compliance with the Department of Transportation (DOT) regulations when shipping these materials.

Safety Services will review with you all pertinent packaging requirements and regulations for the material being shipped, as well as contact the appropriate emergency response agencies as necessary so that they are aware of the shipment.

Thank you for your cooperation in this matter. Your help is important in eliminating accidents and penalties for noncompliance.

To report a shipment, or if you have any questions, call us at x2907.

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