



**Chemical
And
Radiation
Protection**

Lab Safety

Spectrum

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UW - Madison Safety Department Chemical and Radiation Protection
30 N. Murray St. 262-8769 <http://www.fpm.wisc.edu/safety>

Radioactive Materials License No.
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Help Line 265-5518

Hazardous Material Shipping

The form with the striped border is a hazardous material shipping paper. If you fill one of these out, if you sign one of these, or if you receive packages with this form directly from the shipper (e.g., FedEx, UPS, etc.) you are a HAZMAT employee and must receive training which enables you to understand the hazard, appropriate emergency response and, if necessary, how to complete shipping papers and properly package items for shipment.

In September, 1996, the Chancellor received a letter from the US DOT concerning the shipment of a hazardous material that was not in compliance with DOT rules. It read, in part, "Violations contrary to the U.S. Code of Federal Regulations (CFR) 49, if substantiated, may result in the assessment of a civil penalty of up to \$27,500 per violation, and deliberate violations may result in

criminal prosecution of up to \$500,000 and 5 years in prison."

As part of the corrective action, each UW department appointed a Hazardous Material Transportation Coordinator who was trained to understand the basic transportation requirements, recognize hazardous material shipments, and provide information to others in the department regarding hazardous materials transportation.

If you are a HAZAMT employee, you must receive training and be recertified at 3-year intervals. This training is offered by several sections of the Safety Department. The Biological Safety Office conducts training in shipping infectious substances and other biological materials quarterly (training normally offered January, April, July, October). The Chemical & Radiation Protection Office conducts training monthly on shipping and receiving hazardous materials. The 2004 schedule for this class is in the table. You must call the Office of Biological Safety (3-2037) or Chem / Rad Protection (5-9080), to schedule a class.

2004 Hazardous Materials Shipping

January 21	9:00 am – 1:00 pm
February 12	11:00 am – 3:00 pm
March 16	9:00 am – 1:00 pm
April 23	9:00 am – 1:00 pm
May 4	11:00 am – 3:00 pm
June 24	11:00 am – 3:00 pm



Hazardous Waste Disposal

There are many kinds of waste items generated at the UW. Some are innocuous but some are highly regulated and if improperly disposed, may pose a hazard to workers and the environment. This newsletter will look at a wide assortment of waste streams and discuss proper disposal procedures. Most of these are described more fully either at the Safety Department Web Site (<http://www.fpm.wisc.edu/safety>) or in one of our booklets: *Chemical Safety and Disposal Guide* or *Radiation Safety for Radiation Workers*. Forms can be downloaded at:

<http://www.fpm.wisc.edu/chemsafety/forms.htm>
Schedule pickups by sending a pickup request:
<http://www.fpm.wisc.edu/safety/Radiation/pkup.html>

Animal Tissue Disposal

Animal tissue must be sealed in a plastic bag and placed in a sturdy box. Boxes must weigh less than 40 pounds. Tissues must be frozen at the time of collection. Attach an Animal Tissue Disposal Service form. If waste is chemically contaminated, write the chemical name and estimated total amount on the form. Biohazard waste will be collected ONLY if approved by the Biological Safety Office. Label the box with the universal biohazard symbol and note the biohazard on the disposal form. Pickups are on Wednesday and Friday morning. You must notify the Safety Department that you have a disposal and place the boxes on the loading dock by 8:30 a.m. on the morning of the pickup. Check about 11 a.m. to verify the waste was collected. If you generate a large quantity of animal tissues, the Safety Department can provide you with caged carts to make box handling easier.

Biological Waste

Biohazardous waste is disposed of according to your labs biological safety protocol. See the biosafety web site (http://www.fpm.wisc.edu/biosafety/Base/waste_disposal.htm) for a complete description of waste disposal requirements.

Chemical Waste

Chemical waste is collected on Tuesday (except at Chemistry). This program is called "On Site Hazardous Material Management" and is described in Section 7.2 of the Chemical Disposal Guide. Appendix A of the Disposal Guide provides disposal guidance for about 1400 chemicals. Depending upon waste, one of two forms is used. For 5-gallon carboys supplied by Safety, complete a Waste Analysis for Carboys form and for all other wastes, complete a Surplus Chemicals Form. Mark all containers with the chemicals contained. Containers must be properly closed; open containers will NOT be removed from the lab. Put contaminated labware in a sealed plastic bag placed in a cardboard box; mark the contents on the box. Empty carboys can be requested when you schedule the pickup.

Glass

Durable, unbroken glass and plastic (e.g., small bottles, clean petri dishes, most [clean] test tubes and centrifuge tubes) can be disposed via your normal waste. It may be preferable to place these in a cardboard box for safety. Tape stacks of petri plates together to keep them from opening during disposal. Place larger empty glass bottles next to your wastebasket for disposal by the custodians.

Hazardous / Laboratory Glass

Laboratory glass can NOT be recycled. Non medical, and uncontaminated laboratory items such as Pasteur pipettes, pipette tips, slides, coverslips, broken or fragile glass can cause injury if not packaged correctly. Keep separate from other wastes and do NOT dispose of needles or sharps in the same container. Make sure glass and plastic is clean and empty of liquids. Place glass in a strong box. Label the box "Hazardous Glass and Plasticware" and state, "No Needles." For broken glass, line the box with a plastic bag to contain slivers. Tape all seams, do NOT use masking tape; duct tape works well. Place sealed box in the hallway, next to your door. Your building may have other procedures, contact your building manager to see if that is the case.



Sharps

Sharps are items designed to cut or puncture skin. Sharps include unused, disinfected or contaminated needles, syringes with needles, scalpel blades, lancets and razor blades. Broken vials and laboratory slides contaminated with infectious agents or human blood are also sharps. Sharps are segregated from other laboratory waste and placed in special Sharps containers. These containers should be labeled with the word SHARPS and the universal biohazard symbol (if appropriate). When filled, duct tape the lid closed. Autoclave biohazardous sharps from BL3

labs. Place sharps containers in your building's Sharps collection container (contact your building manager to find the location of this container).

Radioactive Waste

A graphic describing packaging for radioactive waste disposal can be printed from our web site (http://www.fpm.wisc.edu/safety/Radiation/waste_disposal.pdf). Pick-ups are scheduled for Monday / Wednesday afternoons. Empty 1L, 2L, or 1 gallon containers can be requested when you schedule a pick up.

Particularly Hazardous Substances

While all chemicals pose some hazard, some chemicals have the potential to be particularly hazardous, requiring more than routine precautions. These substances consist of OSHA regulated *Select Carcinogens*, *Reproductive Toxins*, and *Substances with a High Degree of Acute Toxicity*, and are lumped together by OSHA into the class of Particularly Hazardous Substances.

Appendix D of the Chemical Safety and Disposal Guide discusses laboratory procedures when using these substances. Some of the crucial elements of these procedures are:

- ✓ Maintain inventory of these substances
- ✓ Obtain approval of procedure from supervisor
- ✓ Work in a designated area
- ✓ Have spill supplies at hand

The Safety Department conducts annual safety audits of labs. One of our audit checks is whether your lab uses any Particularly Hazardous Substances. While the list of these substances is relatively long, we have culled the list into a single page which we include in this newsletter.

When doing a new procedure, check to determine whether any of your chemicals are particularly hazardous and discuss their use with your supervisor. Keep a more detailed inventory of these compounds than for less hazardous materials. Insure all workers in your lab know where you are using these substances and when. The Safety Department has a form which is suitable for evaluating both the compound and the procedure. This Particularly Hazardous Substance form can be downloaded at <http://www.fpm.wisc.edu/safety/chemsafety/forms.htm>. A PDF/Word version of a designated area sign can also be downloaded from the site.



Training

Chemical and radiation safety training is available weekly. There are two types of classes. Chem AM classes have the chemical safety class beginning at 9:30 AM and the radiation safety class beginning at 12:30 PM. Rad AM classes have radiation safety classes beginning at 8:30 AM and the chemical safety class beginning at 1 PM. The schedule of these classes through June, 2004 is in the table:

Chemical AM Chemical Safety Radiation Safety	Start Time 9:30 AM 12:30 PM	February 17, 23; March 2, 10, 18; April 7, 19, 28; May 3, 12, 28; June 9, 15, 21, 29
Radiation AM Radiation Safety Chemical Safety	Start Time 8:30 AM 1 PM	February 11; March 26; April 13, May 20; June 3

All training classes are held in the Union South. No sign-up is needed; a quiz is used to document training. Booklets for either class can be picked up at our Annex, room 62, Biochemistry. A complete listing of classes is found at <http://www.fpm.wisc.edu/safety>.

UW-Safety Dept.
30 N. Murray St. 53715-1227

(608) 262-8769

Help Line: (608) 265-5518