

While waste management is a complex program with its own set of terms and definitions, there are some basic requirements which you should be aware of. Each laboratory that generates chemical waste on campus is considered to be a satellite Hazardous Waste Accumulation Area. Waste must be kept in a designated area of the laboratory room and be under the control of the personnel generating the waste. The area should be marked with a Hazardous Waste Accumulation sign available from RMS. You should inspect your accumulation area periodically to verify compliance with the following requirements:

- ✓ Containers must be sealed at all times when not adding waste to prevent spills and emissions.
- ✓ Waste containers must be properly identified with a “Waste Chemical” tag available from the Waste Management program by calling 4-4805 or eMail hazmat1@auburn.edu.
- ✓ The waste tag must identify the chemical(s) in the waste container. Do not use chemical formula, symbols or acronyms.
- ✓ Do not place incompatible chemicals in the same container.
- ✓ Do not accumulate more than 15 gallons (10 gallons for flammable waste) or one quart of acutely hazardous chemical waste. Call or eMail Waste Management to request a pick up,
- ✓ All chemical containers must be in good condition (clean, sound and labeled).
- ✓ Waste containers must be compatible with the waste they contain.
- ✓ All waste containers must be stored in secondary containment to contain spills or leaks.
- ✓ Do not store chemical waste on the floor where they could be broken.
- ✓ Do not store laboratory chemicals in the designated waste accumulation area.

Remember, you are responsible for the wastes generated in your lab operations. **Housekeeping is crucial.** Do not store or leave chemicals, empty containers, or cylinders in the hallway. Consult the Waste Management Guide for correct disposal procedures.

Lastly, clean up all spills immediately. If you need assistance with a spill call RMS at 844-4805. In the event of a more serious spill, fire, explosion, or personal injury, call 911. Wear lab coat, long pants, shoes, and safety glasses. If you spill a chemical on your body or in your eye, use your eye wash and safety shower for at least 15 minutes (for HF, wash for only 5 minutes and use calcium gluconate gel).

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Auburn University

RISK MANAGEMENT AND SAFETY

Laboratory Safety Newsletter

Use of hazardous materials in research is regulated by several federal and state agencies. The Occupational Safety and Health Administration (OSHA) and Alabama Department of Public Health (ADPH) regulate chemical use while the Environmental Protection Agency (EPA) and Alabama Department of Environmental Management (ADEM) regulate chemical wastes and activities with large quantities of chemicals. Radioactive materials are regulated by the Nuclear Regulatory Commission (NRC) and Alabama Department of Public Health (ADPH). Machine produced radiation (e.g. x-rays,) and lasers are regulated by OSHA, Food and Drug Administration (FDA) and ADPH.

A confounding factor of this situation is that these agencies often use similar terms to describe different hazards. For example, EPA uses the term “Extremely Hazardous Substances” which require reporting to emergency response agencies while OSHA uses the term “Particularly Hazardous Substances” to refer certain chemicals which may pose an immediate or long term risk to workers. Some substances may be on both lists or may appear on only one. When working with regulations, it is important to know their applicability.

At first glance, the number and amount of regulations may appear overwhelming, when it comes to worker safety, all of these agencies stress that (1) workers must be made aware of the hazards and (2) workers must be trained initially and retrained periodically in general safety measures and precautions related to the specific hazards that they may encounter in their worksite.

Auburn University is committed to insuring that faculty, staff, students and visitors to our campus will be safe from unnecessary / accidental exposures to hazardous materials.

AU Laboratory Safety Program

Investigations of workplace accidents have shown that nearly all accidents are preventable. They occur primarily because the worker was not using the proper equipment, or was not using proper techniques, or did not have adequate knowledge of the hazards involved (poor or lack of training). Thus, regulations addressing workplace safety requires workers be informed of the hazards in their workplace (Hazard Communication). At Auburn, this is accomplished by the lab's reviewing and implementing the Auburn University Laboratory Safety Manual (<http://www.auburn.edu/administration/rms/pdf/lsm-chp.pdf>).

Risk Management & Safety (RMS) has initiated a laboratory audit program to help assure that personnel who work in or visit your laboratory will be safe. Laboratory Safety and Health personnel from RMS will assess your lab using a checklist based on the prudent practices for laboratory safety developed by the National Research Council. The checklist is available at (<http://www.auburn.edu/administration/rms/pdf/lab-survey.pdf>) and covers the following major safety and health issues:

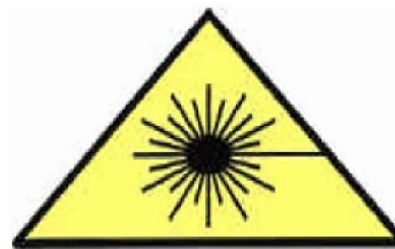


1. Emergency information and signage – Here we are concerned that emergency responders and other persons who enter your lab are aware of the potential hazard. This then looks for door signs, emergency call lists, refrigerator labels, and other signage designating special use areas. Are spill kits and first aid kits available and are eyewash / safety showers available and functioning.
2. Emergency Equipment – Are spill kits and first aid kits available and are eyewash / safety showers available and functioning.
3. Personnel Protective Equipment – Do personnel have and wear proper protective equipment, is eating and drinking prohibited in labs.
4. Fume Hoods – Are hoods inspected, kept clean, not used for waste storage, kept running all the time, sash at appropriate height for work and closed, otherwise.
5. Chemical Storage – All chemical containers are labeled and in good condition, liquid chemicals are stored below eye level, flammables and reactive chemicals are properly stored and secondary containment used, as appropriate.
6. General Safety issues – Includes disposal of hazardous glassware, proper storage of compressed gas, electrical safety, proper sharps management.
7. Hazardous Waste – Is the waste location clearly marked, secondary containment used, workers aware of hazardous waste disposal procedures.
8. Recordkeeping & training – Chemical inventory for lab is available and kept up-to-date, Material Safety Data Sheets (MSDS) available, written laboratory specific SOPs and the AU Laboratory Safety Manual available, and training records maintained for all persons working in the laboratory.

Our goal for the current audit program is to ensure that all AU labs meet this basic level for safety and health. Next year we will be expanding the program to address Particularly Hazardous Substances (PHS). These are an OSHA class of hazardous chemicals that include select carcinogens, reproductive toxins, and compounds with a high degree of acute toxicity. The risk from exposure to these can be immediate (e.g., median lethal dose less than 50 mg), a carcinogen or one that may affect the reproductive system (e.g., mutagens or teratogens).

What can you do to make this process smoother? Depending upon the extent of your research, your lab survey may take up to 1 hour. During one of your lab group meeting, review the checklist and discuss the process. When one of the RMS personnel contacts you, set a convenient time for the audit and decide which of your personnel should be involved. Know where your MSDS sheets are filed, locate your SOPs and training records. If you operate multiple labs, make a list of the rooms and activity performed in each. Lastly, print out a door sign for each room using the templates at our web site (<http://www.auburn.edu/administration/rms/laboratory.html>). Information entered into the door sign program is maintained in a database which is available to RMS and emergency responders.

Training covering all aspects of the AU Lab Safety Program is offered on a regular basis. Additionally, if your lab has a relatively large group, we could conduct a tailored safety class at your facility. Finally, lab safety personnel are available to provide information and guidance on specific issues and will come to your lab upon request.



Laser Safety

Lasers produce narrow, intense monochromatic (i.e., one color) and coherent (i.e., in phase) beams of light. Today, laser devices are commonly found in many work areas. Properly emplaced and operated, laser devices can be of great benefit. Lasers are regulated by the Food & Drug Administration, OSHA and the Alabama Department of Public Health. The FDA attempts to insure commercially marketed lasers can be operated safely. However, even when operated properly, some lasers are capable of causing injury. Auburn's Laser Safety Manual (<http://www.auburn.edu/administration/rms/pdf/laser-safety.pdf>) provides information on the laser safety program. If you have questions about the lasers in your lab, need special training in laser safety, etc., call Mike Anderson at 4-6238. Personnel who work with Class IIIB or Class IV lasers may be required to have a laser eye exam.

Radioactive Material

Auburn University's radioactive material and x-ray radiation programs were inspected by the Alabama Department of Public Health in January. The inspection resulted in a notice of violation for 5 minor, administrative items. The inspection notice and AU's response are posted in Leach Science Center.

The state inspectors visited several labs to assess radioactive material workers awareness of proper procedures. They looked at inventories, checked Geiger counter calibrations, asked laboratory workers to demonstrate proper survey techniques. The inspectors were completely satisfied with the laboratory use of radioactive material. During their out-brief, they stated that they were impressed with the improvements that have been made in the program since their previous inspection in 2003. A large measure of that improvement is due to your diligence and attention to detail. Thank You!!



Laboratory Chemical Wastes

Waste generated from laboratory processes using hazardous chemicals or unwanted chemicals which are no longer needed or usable, may become hazardous wastes. These waste materials are regulated by the EPA and the Alabama Department of Environmental Management (ADEM). Auburn's Chemical Waste Management (CWM) Guide provides guidance for lab personnel to properly manage the wastes they generate. The CWM Guide is available and can be downloaded from our web site, <http://www.auburn.edu/administration/rms/pdf/hazwaste-guide.pdf>.

Keep a copy of the Chemical Waste Management Guide in your lab. Be sure that all personnel who may generate waste are familiar with the proper procedures waste management and know where to find the guide and other paperwork associated with hazardous waste (e.g., tags, internal manifests, etc.).

