

## Hazardous Waste Disposal

Auburn University is inspected annually by state and federal agencies for compliance with hazardous waste regulations. When government officials inspect the Campus for compliance, they examine laboratories and other locations where waste chemicals are generated. Failure to meet hazardous waste accumulation area regulations can lead to a Notice of Violation (NOV) and possible fines from these agencies. These are violations caused by improper laboratory procedures.

Each laboratory generating hazardous waste on campus is considered a Hazardous Waste Satellite Accumulation Area (SAA). This is the point of generation for hazardous waste. Accumulated hazardous waste must be under the control of those who generate the material. "Control" includes, but is not limited to, keeping containers closed, and visual observation by the operator or the provision of appropriate security measures such as a locking mechanism wherever possible. Hazardous waste awaiting pickup must be stored in the immediate vicinity where it was generated.

Hazardous waste may not be moved to a different room or work area for storage. As long as the generator keeps no more than 15 gallons of waste (10 gallons of waste flammable liquids) or one quart of acutely hazardous waste (see EPA P-Codes) in the area where satellite waste is being accumulated, it will remain a SAA. While the EPA allows for up to 55 gallons of waste storage in an accumulation area the University has set a lower threshold for two reasons:

(1) A 55 gallon drum of water weighs approximately 459 pounds which is very close to 1/4 of the entire hazardous waste stream monthly limit for a small quantity generator. Last minute and end-of-the-month generation of large amounts of waste play havoc with our ability to schedule waste disposal and minimize total cost to the University.

(2) Except for laboratory cleanouts there is no good reason to have more than 15 gallons of waste in the laboratory. The risk of accident is greater, floor and storage space is reduced, and creative measures in waste minimization are reduced when one accumulates a large amount of a specific waste for disposal. The National Fire Code also prohibits the unprotected storage of more than 10 gallons of flammable liquids. Flammable liquids constitute a substantial portion of the University's waste stream. If waste containers exceed 15 gallons, notify EHS for a pickup immediately.

The following seven steps will help ensure that your location is in compliance with accumulation area regulations:

1. Store chemical waste in designated area. All chemical waste containers must be stored in your laboratory's designated SAA. A standardized SAA sign, provided by this office, must be posted in this area. This will allow for easy inspection by regulatory authorities and clearly separates waste materials from products in use. It also helps EHS personnel to locate the waste when a pickup request is received.

2. Keep containers closed. All chemical waste containers must be closed. Keep containers closed. All chemical waste containers must be closed except when actually being used for the addition or removal of wastes. The most common regulatory violations found are funnels left in containers and waste containers left open in fume hoods.

3. Label all containers. You must complete a CHEMATIX™ Waste Card for all containers to be disposed of by this office. Labeling all chemical containers is good laboratory practice and is required under state and federal regulations. Also per regulations, all hazardous waste containers must have the word “waste” in the descriptive label. The CHEMATIX™ Waste Card satisfies this requirement. General labels such as “Waste”, “Organic Waste”, and “Toxic Waste” are not acceptable.

4. Avoid excessive accumulations of waste. Do not let excessive amounts of chemical waste accumulate at your SAA location. EHS personnel will pick up any amount of waste upon request. Less waste in your laboratory means safer working conditions for you. If you must accumulate a large amount of chemical waste, notify EHS and assist us in arranging a suitable schedule for removal.

5. Inspect your area. Generators must inspect their accumulation areas to make sure that collection containers are clean, closed, properly labeled, segregated, and not leaking.

6. Post a copy of the Chemical Waste Management Guide. Notify all personnel of the location of the Chemical Waste Management Guide and CHEMATIX™ Waste Guide. Hazardous waste may not be moved to a different room or work area for storage.

7. Good housekeeping is the most important thing you can do to improve safety and minimize wastes. It also makes a good impression on inspectors. Do not store or leave chemicals, empty containers or cylinders in the hallways. Clean up all chemical spills immediately or call RMS for assistance.

## **Containers**

Materials that are to be discarded as hazardous waste should be placed in containers of one gallon or less with adequate closures. Corks, stoppers or Para film are not considered adequate closure. Use of containers larger than 5 gallons must be pre-approved by RMS office. EPA requires containers larger than 26 gallons and which are used to store hazardous waste to comply with 40 CFR Subpart CC Air Emission Standards for Containers. Containers greater than 5 gallons may be approved by the Department of Transportation (DOT) for a commercial product but not for a hazardous waste. Often the original container is acceptable; however, more investigation is warranted for each particular waste stream. Contact EHS for a consultation. Containers must be kept closed when not actually pouring waste into or out of the container. Do not leave funnels in containers. The only exception to this rule is for “process wastes”, such as HPLC, which run and add waste to the properly labeled container continuously. However, when the process is not running---i.e., at the end of the day---the top must be on the properly labeled container.

## Container Requirements

- All containers must be compatible with the specific chemical waste stored in them.
- Keep the outside of container clean and uncontaminated.
- All waste chemical containers must be capped with a tight-fitting, screw-on cap. Corks and stoppers are unacceptable. Please take extra care when matching glass bottles and screw-on caps. There are many similar designs which are not interchangeable.
- Containers that are improperly sealed, cracked or leaking cannot be collected.
- Containers must be kept closed except when being filled.
- Containers must be properly labeled.
- Do not overfill containers. Leave 2 inches of headspace in all containers greater than 1 quart holding liquid waste. Overfilled containers cannot be accepted.

## Waste Labeling

CHEMATIX™ Waste Cards have been specially designed to ensure that the University complies with the container labeling regulations established by existing regulations. Only materials with these Waste Cards can be accepted for disposal. The Waste Card should be used with all chemical wastes, including those for recycling. This includes off specification reagents, spent solvents and commingled waste. For recyclables, Waste Cards are to be placed on chemicals that are good quality, in original containers and have the original manufacturer's label, which could be used by someone else on-campus. Containers cannot be picked up until a completed Waste Card is attached.

Why Label Waste?

- It ensures safety.
- It prevents waste from being identified as "unknown".
- It meets or exceeds regulatory compliance.
- EHS will not pick up waste that is not properly labeled.

## Disposal of Laboratory Glassware

**Glassware must not be disposed of in normal laboratory trash. Various departments on campus have reported puncture wounds or lacerations when carrying trash bags containing broken glassware!!**

Broken glassware poses a genuine hazard and should be cleaned up immediately. Each Laboratory should have a small brush and dust pan ready for such incidents. Forceps or tape can also be used to pick up smaller pieces of broken glass. Alert all laboratory occupants of the

hazard to prevent injury. To minimize various potential hazards when discarding broken or unserviceable glassware, certain procedures should be followed:

- Discarded glassware **must** be placed in a puncture proof, double-lined cardboard box or a container specifically designed for the disposal of glassware.
- The box must be securely sealed with tape to prevent any leaks
- Any cardboard box may be used, provided it is sturdy, double-lined and of a size that will not weigh more than 20 pounds when full. You can also purchase broken glassware boxes from various manufacturers or from the Scientific Supply Store on campus.
- Label the container as “**CAUTION: BROKEN GLASSWARE**” in bold.
- Place the container directly into the dumpster.
- Discarded glassware must not contain any hazardous waste, medical waste, or radioisotopes. If the glassware contains any of these items, please call Risk Management & Safety at 844-4805 or 844-4870 for information on disposal.
- Never use broken glassware boxes for the disposal of
  - I. Sharps
  - II. Biohazard materials

## Sharps

The sharps container must be red in color and display the International Biohazard Symbol or one of the following phrases:

- \* Medical Waste
- \* Infectious
- \* Infectious Waste
- \* Biohazardous

All sharps must be packaged in an approved sharps container. The Scientific Supply Store in the Science Center Laboratories Building carries a selection of various size sharps containers and they are available from most general scientific supply companies. The generator must ensure that the container is properly sealed and labeled. If the container is not properly sealed, or there is any doubt about the integrity of the sharps container it will not be accepted for disposal. Sharps containers should not be used for the disposal of aluminum drink cans, paper, gloves, laboratory glass, culture tubes, bodily fluids or any other similar types of materials. Sharps containers shall not be used for the disposal of chemicals or radioactive materials. Sharps containers should only be used for sharps. If the sharps have been exposed to human disease agents they must be autoclaved prior to being picked up by Risk Management and Safety.

## Disposal

Since sharps must be rendered non-recognizable prior to disposal all sharps are shipped off-site to an approved medical waste treatment facility on a weekly basis.

When you have a sufficient number of sharp containers to warrant a pickup, you should call the Department of Risk Management and Safety at 4-4805 and request a pickup.