



The University of Georgia

Environmental Safety Division

Hazardous Materials Treatment Facility

Information, Helpful Tips, and Contacts

The University of Georgia's Hazardous Materials program assists hazardous chemical generators with the proper handling and disposal of hazardous waste. Many of the activities of the hazardous materials program are mandated by the code of federal regulations and Georgia state law.

**297 Will Hunter Road
Athens, GA 30602-5681
Phone: 369-5706
Fax: 369-5866**

<http://www.esd.uga.edu/hazmat/>

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This booklet is designed to be your *introduction* to the requirements of the hazardous materials program at the University of Georgia. More in-depth information is provided in the Responsible Management of Hazardous Waste training is available as an online course at: < <http://www.esd.uga.edu/hazmat/training.htm>>. The Manual is also available online as a download on the same web page.

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Training Requirements

It is the intent of federal laws that everyone who generates hazardous waste should attend training. The University has designed a training course to familiarize principal investigators and their staff with federal, state, and University procedures. The course is currently offered at Training and Development, but will soon be online. Every person who generates hazardous waste is required to take the hazardous waste course annually as a refresher.

During the course, you will learn how to identify hazardous wastes, review regulatory issues regarding hazardous wastes, discover container management strategies and requirements, examine labeling requirements, and master all of the steps involved in removal of hazardous wastes from the lab.

Hazardous Waste Pick-up Procedures

- Complete *one* blue tag for each container.
- Provide all information on the blue tag, paying special attention to completing the chemical name, CAS #, and percentage portion for each chemical in a mixture.
- Do not use abbreviations or chemical formulas.
- List the container size, *not* the amount in the container.
- Pickups are normally within five working days after receipt of the inventory.
- Transfer the blue tag information to the hazardous materials program pickup inventory form (HW03-0296).
- Fax the pickup inventory form to 369-5866 or send through campus mail (HMTF +5681) for processing.

Container Management

- Use containers compatible with the waste collected.
- Place only compatible wastes in the same container.
- Label all containers with the words “HAZARDOUS WASTE.”
- Indicate the date waste was first placed in the container.
- Containers must be kept closed when not in use.
- Keep incompatible wastes separated.
- Use secondary containment when available.
- Choose a central storage area at or near the point of waste generation and mark with a sign saying “Satellite Accumulation Area.” All waste should be stored in this area.
- Perform weekly inspections of containers for leaks, corrosion, bulging, and proper labeling.
- Transfer waste from leaking containers to intact ones.
- Use appropriate personal protective equipment when handling waste.

Carboys

Often labs use large five-gallon plastic containers, known as “carboys” to accumulate waste in their labs. In order for these to be returned in a timely manner, they must be labeled correctly. The researcher and lab room number as well as the building should be clearly written in permanent marker on the *side* or *back* of the container. Writing on the front of the container, where the spout is located, can cause the lettering to smear during consolidation resulting in a container that cannot be returned. Carboys may be obtained from Central Research Stores.

Hazardous Waste Accumulation Point Requirements

1. All chemical containers must be properly labeled. Hazardous waste containers must be marked with the words “HAZARDOUS WASTE” and the name of the chemical(s) in the container. The date waste(s) were first added must be marked as well. In addition, for those containers with mixtures, a breakdown of the chemical components by percentage or volume is critical to proper disposal.
2. Blue tags are required for each container before the hazardous materials staff can remove them.
3. All hazardous wastes shall be collected in salable containers. Foil or film closures are not acceptable. **Do not put hazardous wastes into sinks, drains or the trash.** The waste must be compatible with other wastes in the container and the type of container in which it is stored. The exterior of the container must be free of chemical contamination. Store containers of incompatible waste apart from each other (i.e., keep oxidizers away from flammable solvents). Also, consider safe temperature storage requirements.
4. Containers shall be kept closed except when adding waste to the container.
5. Keep the containers near the process generating the waste. Keep open flame and ignition away from all chemicals, especially hazardous waste and chemical containers. “No Smoking” rules apply.
6. Do not overfill waste containers. Two (2) inches of headspace should be allowed.
7. Keep all containers properly labeled and complete all requested information if using a blue tag. Inspect waste containers weekly for leaks and proper labeling. This must be documented.
8. All employees working in the area must complete Chemical-Specific Right to Know Training, located online at: < <http://www.esd.uga.edu/rtk/>>. All personnel responsible for hazardous waste in their area must complete the Solid and Hazardous Waste Management training.
9. Dispose of **peroxide-forming chemicals** (e.g., ethers, dioxane, tetrahydrofuran) before the expiration date on the label. Certain chemicals, with the passage of time, can become shock-sensitive explosives. Attention to detail will save the facility a significant amount of time and money and could save someone’s life.
10. Your assistance is needed to prevent the generation of **unknown chemicals**. Unknown chemicals are a serious safety hazard. The costs for identification and disposal can be very high. Proper labeling, inventory and reporting, especially for those containers leaving the facility, would eliminate this problem. The Environmental Safety Division requires that departments make every effort to identify unknown wastes.
11. It is critical that every effort be made to fully and correctly identify all chemical constituents and their respective concentrations on the container labels. Incorrectly labeled containers could result in improper disposal and subsequent fines being assessed. An improper label could pose serious and potentially fatal threats to both laboratory and Environmental Safety Division personnel.
12. Major laboratory clean-outs must be planned and scheduled with HMTF well in advance of waste removal.
13. Radioactive materials are not handled in the same fashion as hazardous waste. **Never mix radioactive and hazardous waste.**
14. All fires, regardless of size, must be reported to the fire safety manager at 369-5706.
15. All fire extinguishers used for any fire or discharged to any degree must be reported immediately to your safety manager.

16. All **chemical spills and/or releases** must be cleaned up properly and safely. All spills in amounts greater than 0.5 liters or one pound, or of *any* acutely hazardous materials require a response from your safety manager. Any size spill directly to the ground or water must also be immediately reported.
17. Please do not place hazardous waste in biohazard bags.
18. If you have questions, please call hazardous materials at 369-5706.

Hazardous Waste Collection

Accurate record keeping is required to comply with state and federal regulations. The hazardous materials program staff assists laboratories (generators) by preparing shipping documents and transporting the materials to HMTF where it can be stored for up to one year. From HMTF the waste is consolidated or lab packed for transport to off-site commercial disposal facilities.

Consolidation is a technique used to reduce the cost of disposal. The chemicals that are compatible and similar in their characteristics (e.g., flammable or corrosive) are poured into larger containers. The chemicals that are not compatible or are too dangerous to open are packed into safety sealed containers to be shipped to special facilities. Any chemical that cannot be identified becomes an “unknown” and is extremely expensive to process for disposal. For this reason, it is very important to always use proper labeling techniques in order to reduce disposal costs.

Consolidation is the point where proper identification is crucial for HMTF staff. Each container of liquid material is categorized and poured into 55-gallon drums for disposal. If a chemical or mixture of chemicals is mislabeled, it can cause unexpected reactions inside the consolidation drum, possibly resulting in death or injury for the people in the immediate vicinity.

The University of Georgia is committed to disposing all hazardous materials in a responsible, safe and professional manner. The HMTF staff will assist any principal investigator/ researcher (generator) with chemical questions, including waste determinations, storage, and proper disposal techniques.

Laboratory Management

Waste Minimization Techniques

- Use digital/alcohol instead of mercury thermometers.
- Pre-weigh chemicals.
- Substitute alcohol instead of benzene, when appropriate.
- Consider waste generation as a factor when planning experiments.
- Reduce quantity used; use microscale chemistry techniques.
- Consider having purchases approved by one person/department.
- Purchase smaller quantities and exchange excess.
- Use environmentally preferable purchasing techniques:
 - Require that companies accept the return of out-of-date or unused chemicals, samples, and containers.
 - Arrange to have the supplier deliver small amounts of chemicals on short notice.
 - Buy only what can be used in a reasonable time period. (Bulk chemical purchases can create waste by aging/drying, advent of new product, or spoilage.)
 - Require that purchaser must review “list of pre-owned chemicals” before purchasing.

Chemical Spill Procedures

All areas generating hazardous waste must have spill control measures in place to deal with minor, non-emergency spills. Spill kits should be readily accessible to those working in the area. Minor, non-emergency spills are limited to those spills of non-acutely hazardous waste materials of less than 500 ml in volume or one pound in weight. If a minor spill occurs, use the following procedures:

1. Secure area, notify others and supervisors.
2. Consult MSDS to determine if spill can be managed.
3. Assemble spill control equipment.
4. Absorb and containerize the spilled material.
5. Label the container with:
 - the contents of the container,
 - the words “Hazardous Waste,”
 - the accumulation start date.
6. Store spill container with other compatible hazardous waste.

All spills should be reported to the designated safety manager. Always call ESD at 542-5801 concerning a spill. All spills in amounts greater than those listed above or of any acutely hazardous materials require a response from your safety manager. Any size spill directly to the ground or water must be immediately reported to the facility’s safety manager. Note: **After working hours, call the UGA Police Department at 542-2200.**

Laboratory Clean-outs

Principal investigators/researchers may be left with labs that have chemicals from previous researchers. The hazardous materials program staff is highly experienced in dealing with these situations and should be consulted *prior* to beginning the process of tagging chemicals in order to provide proper disposal. If at all possible, a two-month lead-time for such projects is requested.

Unknown Chemical Determination

If you find yourself in possession of an unknown chemical the Staff at the HMTF is experienced with thousands of different chemicals. We have tests we can perform to analyze many chemicals to determine their identity. If you have any doubt as to the identity of a chemical please call the HMTF at 369-5706.

Sample Forms

Blue Tag

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HAZARDOUS WASTE

EPA and University regulations prohibit improper disposal. If found, contact the UGA Hazardous Materials program at (706) 369-5706 or UGA Police at (706) 542-2200.

Accumulation Start Date

196109

01 / 01 / 02

PRINCIPAL RESEARCHER: (PRINT)

John Doe

PHONE# BUILDING/DEPARTMENT/ROOM

2-1000 / Chemistry / Chemistry

CHEMICAL NAME & CAS NUMBER

Methanol 67561 60

Acetone 75058 15

Water 7732185 25

100%

Quantity is the size of the container, not the amount in it.

Signature

John Doe

Container Size

4 L

FOR HAZARDOUS MATERIALS PROGRAM USE ONLY

DATE RECEIVED:

Aug 17-02

6-digit red number tracks the container

List chemical name, then CAS number, then % of chemical. Percentages must total 100%.

Signature of the person who prepared the blue tag.

Sample Forms
Hazardous waste satellite accumulation area sign

Hazardous Waste
SATELLITE
ACCUMULATION
AREA
Phone Numbers and Contact Information

Hazardous Materials Program Staff

Dena Roth droth@esd.uga.edu
Brian Adams badams@esd.uga.edu
Michael Foster mfooster@esd.uga.edu
Judy Harper jharper@esd.uga.edu
Jeff Shirey jshirey@esd.uga.edu
Phone 369-5706
Fax 369-5866
Website www.esd.uga.edu/hazmat

Quick Reference Telephone Numbers

Caution sign requests 542-0113
Chemical spills 542-5801
EMERGENCY fire/ambulance 9-911
 UGA Police 542-2200
Hazardous chemical disposal 369-5706
Radiation safety 542-5801
Right to know 542-0105
Surplus Chemicals 542-2411

Frequently Asked Questions

Q: How do I find the CAS number?

A: First, look at the container the chemical was delivered in. Second, check the MSDS for that chemical. Third, call Hazardous Materials Program, 369-5706 or email: hazmat@esd.uga.edu

Q: Where do I get blue tags?

A: Call the HMTF 369-5706 and we will send them to you via campus mail.

Q: Where can I get chemical inventory forms?

A: The form is available online: www.esd.uga.edu/hazmat. Or, you may call Hazardous Materials Program at 369-5706.

Q: Can empty containers be thrown away?

A: Yes, if all wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and no more than 2.5 centimeters of residue remain on the bottom of the container, or no more than 3% by weight remain in the container.

For disposal of any container that has contained an acutely hazardous waste or any compressed gas, please call HMTF for guidance.

Q: When and how will I get my carboy back?

A: If the container is properly labeled with the researcher's name, department, and building on the sides, it should take about ten working days to get the container back.