

GUIDELINES FOR HANDLING

HAZARDOUS CHEMICAL WASTE

The proper management of hazardous waste is essential to protect the health and safety of the University community and to insure that laws and regulations are met. **All** of the following specifications must be implemented to make sure that safety and regulatory compliance are achieved:

1. Make sure that **no** hazardous materials are placed into regular solid waste containers, flushed down the drain or otherwise inappropriately disposed of. If there is any doubt, contact the departmental chemical hygiene officer (CHO) or the Department of Environmental Health and Safety (EHS) at 974-5084.
2. Review and make sure that you are familiar with **all** safety guidelines contained in the departmental chemical hygiene plan (CHP) before you begin to use hazardous substances.
3. Make sure you know the potential hazards of the materials with which you are working. Always review the Material Safety Data Sheet (MSDS) of **all** materials before you begin to use the substances.
4.
 - a. Make sure the location(s) selected to store hazardous waste is acceptable. If assistance is needed for selection, contact the departmental chemical hygiene officer (CHO) or the Department of Environmental Health and Safety at 974-5084. The storage location(s) must protect waste containers against spillage, breakage, ignition sources, vandalism, etc. For example, it is not acceptable to store glass containers on the floor where they are subject to being knocked over.
 - b. The storage area must be posted with the yellow "Hazardous Waste Storage Area" sign.
 - c. The yellow emergency information placard must be posted on or near the exterior of the laboratory door and must describe the waste storage location(s) and must be updated on an annual basis (verify information, make changes and change the date).
 - d. Whenever possible, store flammable waste liquids and waste corrosive liquids in a cabinet designed for storage of these classes of chemicals.
 - e. Some type of spill containment mechanism must be provided to catch materials that might leak from a container. The use of pans,

tubs, etc. are examples of suitable secondary containment methods.

- f. All containers must be leak resistant and chemically compatible with the contents to be stored.
 - g. All containers must be kept closed. It is illegal to store waste in an open container. Lids should fit properly and be tightly secured so that the container could be turned upside down without fear of a spill.
 - h. All containers must be kept clean on the outside surface. If containers become contaminated they must be cleaned. Contamination on the exterior of waste containers is a violation of federal and state regulations.
 - i. Bags may be used only for **dry** solids. Needles, (capped or uncapped), pipettes, broken glass or other sharp-edged materials are not acceptable in bags. All “sharps” must be placed in puncture-resistant containers.
 - j. Containers marked with **biohazard or radioactive** warning labels are not acceptable for chemical waste disposal. Neither are the orange and red disposal bags designed for disposal of these two types of materials.
 - k. Containers of substances that are chemically incompatible must be stored suitably separated as not to present a reaction hazard. Not separating incompatible chemicals is a violation of federal and state law.
 - l. Good housekeeping must be maintained at all times in the storage location(s). Containers of chemicals that have not been declared waste should not be stored intermingled with waste containers. Items constituting clutter should not be allowed to accumulate in the storage location(s).
5. At the time the first drop of material is placed in a storage container, a properly filled-out hazardous waste label must be attached to the container in order to comply with federal and state law. The approved label is yellow in background with red lettering. The heading on the label is “**University of Tennessee Hazardous Waste**”.

The following information must appear on each container of hazardous waste:

- a. **Generator's Name:** The individual who is responsible for the area or process from which the waste originated and the best person to contact if further information about the material is needed.
 - b. **Quantity:** Actual amount of chemical, not the size of the container.
 - c. **Chemical Constituents:** Give all constituents whether hazardous or non-hazardous. Formulas, trade names and abbreviations are **not** acceptable. Exact percentages of constituents are helpful, and in some instances, necessary. Estimates are generally acceptable when exact amounts are not capable of being known. Be sure that your waste is compatible with constituents already present in a container before adding additional waste.
 - d. **Accumulation Date:** The date a container becomes full or is moved from a lab to a centralized storage facility (when you take chemicals out of your lab and place them in a room designated for storage of hazardous waste. Storage cannot exceed 90 days from this transfer date.
6. Federal and state laws require that there be adequate provisions for dealing with waste spills. The best way to deal with a spill is not to allow one to occur in the first place. Application of all precautions previously described in this guide will provide a good margin of protection against spills.

All storage containers should be inspected daily to monitor for leaks or storage practice deficiencies that could lead to leaks. The use of secondary containment is particularly effective in guarding against leaking material escaping in such a manner as to compromise safety or the environment.

In the event that a leak does occur, the following response should be employed:

- a. Before using a material, review the emergency reaction section of the MSDS and make sure that all prescribed emergency equipment is available. For example, know what type of fire extinguisher is effective against a fire involving the material you are working with and the location of the extinguisher(s) in the use area.
- b. If anyone is injured or contaminated, render emergency assistance immediately.

- c. If safe for you to do so, take action to contain the spilled material immediately. The use of absorbent substances such as vermiculite is very effective in containing spilled liquid and keeping them from causing a safety or environmental problem.
 - d. If it is sensed that the nature of the spill could cause serious, immediate consequences such as explosion, fire, poisoning, etc., evacuate the immediate area and call **911**. Knowledge of the characteristics of the material, which can be gained from review of your departmental chemical hygiene plan (CHP) and the Material Safety Data Sheets(MSDS) for the material, is invaluable when this type judgment must be made.
 - e. If it is judged that the spill presents no immediate hazard such as with a spill of limited quantity that is controlled by secondary containment, immediately contact the supervisor and the departmental chemical hygiene officer (CHO) for assistance.
7. If there are any questions that cannot be effectively answered by your supervisor or the departmental chemical hygiene officer, you should contact the Department of Environmental Health and Safety at 974-5084 for assistance.
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HAZARDOUS WASTE HANDLERS REVIEW CERTIFICATION

This is to certify that I have reviewed the University of Tennessee Guidelines for Handling Hazardous Chemical Waste and understand the requirements prescribed in the document.

**NAME
(PRINTED)** _____

TITLE _____

DEPARTMENT _____

**BUILDING AND LAB ROOM
NUMBER** _____

DATE _____

SIGNATURE _____