
Chemical Procurement and Disposal

1 Purpose

This policy provides guidelines and expectations for the safe handling, storage, and disposal of chemical and hazardous waste.

2 Scope of application

Faculty and staff are responsible for the administration of safe work practices and procedures in their respective work areas. Faculty and staff working with chemical and/or hazardous waste must coordinate proper disposal of chemical/hazardous waste with the Office of Environmental, Health, and Safety. The Director of Environmental, Health, and Safety works with departments and units for the proper storage and disposal of chemical or hazardous waste generated. The following information should provide guidance for safe handling procedures for chemicals and hazardous waste.

The U.S. Environmental Protection Agency (EPA) and the federal and State Department of Transportation regulate hazardous waste handling and disposal. Noncompliance with regulatory requirements can result in significant fines and may compromise safety for the campus environment. The cooperation of all supervisors and personnel is necessary to make laboratories and areas where chemicals are utilized safe places to learn and work. Any questions that are not covered in this document should be directed to the Director of Environmental, Health, and Safety.

The ultimate responsibility for proper inventory, handling, storage or disposal of chemicals or chemical/hazardous waste materials lies with the dean or similar level supervisor who has oversight of the faculty/staff utilizing the original substance or material. Any improper management or disposal of materials resulting in additional cost analysis for disposal, additional cost of materials/services for disposal, and any regulatory actions or fines resulting from improper management or disposal will accrue to the responsible department operating or restricted funds and may impact the ability to procure additional supplies.

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	Issue
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3 Definitions / Terms / Abbreviations

Hazardous Waste

According to the EPA, hazardous waste is any waste that is ignitable (flash point of < 140 F) or corrosive (pH of ≤ 2 or ≥ 12.5). Reactive chemicals, radioactive materials, poisonous materials, carcinogens, biohazards, compressed gasses, toxic chemicals, and infectious items and other specifically listed materials by the EPA are considered toxic or toxic waste. In addition, hazardous wastes may include byproducts and wastes from chemical reactions or unwanted commercial products and chemicals. Hazardous waste determinations are not always straight forward; therefore, the Office of Environmental, Health, and Safety may assist with guidance for handling and proper disposal.

4 Safety Data Sheets (SDS) Required

Safety Data Sheets (SDS) which may be found online and printed out from the manufacturer of the material or chemical, are a good source of information for determining whether a particular material meets criteria to be designated as

hazardous. SDSs must be accessible and available in laboratories or other spaces that store or utilize chemicals. All chemicals must be labeled and stored in appropriate containers. Department chairs are responsible for assigning duties for maintaining the SDS sheets for each lab in the academic departments; supervisors of non-academic units that deal with hazardous materials or waste are responsible for assigned duties for maintaining the SDS sheets for each space where hazardous materials or waste is present.

5 Chemical Procurement

Faculty and Staff responsible for purchasing chemicals and materials for their respective departments will be responsible for ensuring that prior to any purchase, the New Chemical & Material Safety Approval Form has been completed and submitted to the Office of Environmental, Health and Safety. This form can be located at <http://www.methodist.edu/ehs-forms>

6 Disposal of Hazardous Waste

Hazardous waste may not be disposed of in the trash or drain. Hazardous waste must be collected, submitted to the Office of Environmental, Health, and Safety, and shipped to a permitted treatment, storage, or disposal facility. Improperly managed hazardous waste can present a safety hazard to the campus students and employees, create a physical hazard to plumbing and buildings, and create an environmental hazard should releases occur to the air, ground, or water.

6.1 Hazardous Waste Accumulation and Storage

The following are general guidelines for accumulating and storing hazardous waste. More detailed information is available from the Director of Environmental, Health, and Safety.

Safety Data Sheets (SDS) must be accurate and maintained in a designated place in any area containing chemicals or hazardous waste.

Appropriate personal protective equipment (eye protection, gloves, aprons, etc.) must be worn when dealing with chemicals and hazardous materials or hazardous waste.

Hazardous waste should be stored near the point of generation or in the lab or work area in which it is generated. Waste should be consolidated in one place – not spread out in several different locations.

All occupants must be familiar with the activities/experiments of the area.

Hazardous waste should not be removed without prior authorization from the Office of Environmental, Health, and Safety.

Waste material must be compatible with the collection container, e.g., corrosives must not be stored/collected in metal containers. When possible, plastic containers are preferred to glass, as they are less likely to break if knocked over. If a particular waste is generated on a fairly large scale, as with some solvents, a 2 ½ gallon plastic container may be appropriate for collection.

Only similar wastes should be collected in the same container. Mixing incompatible or different types of wastes may cause a chemical reaction or greatly increase disposal costs. It may be necessary to have different waste containers accumulating materials, for example, one for non-chlorinated flammable solvents, another for acids, etc.

All chemical/hazardous waste must be collected in tightly closing, leak-proof containers that must be kept closed except when adding waste. Stopped glassware or beakers are not appropriate waste collection containers. Waste must be collected in appropriate containers and collection containers may not be left open or open with funnels.

Hazardous waste containers must be labeled with the words “Hazardous Waste” in addition to the specific chemical contents.

The label must list the specific contents; for example, flammable solvents – acetone, hexane, etc.

Chemical names must be completely spelled out; abbreviations or chemical structures are not in accordance with regulations.

If empty commercial chemical containers are used to collect waste, the old chemical label must be obliterated and a new label affixed to the container to avoid possible confusion as to the contents.

Only the Safety Officer is authorized to remove chemical or hazardous waste with appropriate notification from the employee responsible for the SDS sheet.

Waste containers and any chemical container must not be stored in a location where a spill could potentially cause a release to the environment. Containers should not be stored next to sinks and ideally not in hoods with sinks. Containers should not be stored on the floor where they can be kicked over, particularly in rooms with floor drains.

7 Chemical Inventories and Housekeeping

For safety reasons, the chemicals on-hand in the laboratory/work area should be limited to those actually in use or planned for use during the year. Chemical inventories must be taken annually and unwanted, unneeded, or duplicate chemicals must be removed. During the year, Semesterly reviews should be completed to include monitoring all containers for good condition, clear labels, taking corrective

action if necessary, and a reconciliation of the SDS sheet.

All laboratory/work area is subject to inspection by the Environmental Protection Agency (EPA) or MU Safety Officer. In order to be compliant with EPA rules the following steps by supervisors of laboratories/work areas are required:

- Weekly inspections; with notification to the Safety Officer regarding removal of hazardous materials or waste when necessary
- Segregation and containment of wastes in proper containers
- Storage in separate containers for different types of waste
- Closed containers

Department heads and supervisors share responsibility to ensure students and faculty/staff properly dispose of any wastes or residuals from their work. Department heads and supervisors must ensure faculty/staff properly dispose of any wastes or residuals prior to the faculty/staff leaving MU. Department heads must supervise and designate appropriate personnel to act as the Safety Officer Liaison for handling and removal of chemicals or hazardous waste and ensuring complete compliance for safety and safe handling of chemicals and/or hazardous waste.

The Safety Officer will conduct periodic inspections (at least annually) and review compliance for handling and storage of chemicals or hazardous waste. The Safety Officer Liaison works collaboratively with the Safety Officer regarding inventory and policy requirements.

7.1 Removal of Chemical Waste

Chemical or hazardous waste must be removed as soon as possible in accordance with EPA and expectations outlined in this policy. Safety Officer liaisons responsible for proximate work labs or areas or similar disciplines coordinate disposal of chemicals in order to ensure efficient use of supplies.

The Safety Officer Liaison must notify the Office of Environmental, Health, and Safety to arrange for disposal of chemical or hazardous waste material. An Environmental Safety Request Form must be completed and the composition of the waste and quantity and size of containers must be noted. Waste components must be listed on the form along with approximate percentages of each component. For example, methylene chloride 50%, water 50%. This form can be located at <http://www.methodist.edu/ehs-forms>.

When it is necessary to dispose of chemicals, all containers must be in good condition, sealed tightly, free of spillage on the outside of the container and clearly labeled for transport; the Safety Officer Liaison must contact the Safety Officer to schedule removal/disposal. The Safety Officer will remove the waste from the lab/work area.

8 Storage and Chemical/Hazardous Material Inventory Management

A written current chemical inventory shall be maintained for each campus location that stores/uses hazardous chemicals

The inventory list should include the location where the material is stored, the material name, manufacturer, Chemical Abstracts Service (CAS) number, quantity, major characteristic (flammable, corrosive, toxic, reactive) and expiration date.

The inventory should be checked every semester for each location; in addition to the departmental responsibility for maintaining inventory, the Safety Officer will conduct periodic inventory audits.

Copies of the current inventory and location of chemicals should be provided to the Office of Environmental, Health, and Safety and the Department of Public Safety on a semesterly basis.

Disposal arrangement for outdated chemicals or chemicals approaching end of shelf life, should be done at the time of inventory.

9 Laboratory Supervisors / Safety Officer Liaison Responsibilities

- As designated by the department head, serves as Safety Officer Liaison
- Responsible to ensure appropriate safety procedures are followed and appropriate equipment is utilized by laboratory or work area occupants
- Completes Safety Data Sheets and maintains accuracy of information
- Monitors the procurement, safe use, and proper disposal of chemicals and/or hazardous materials
- Schedules with the Safety Officer hazardous waste disposal and oversees the handling of hazardous waste pending proper disposal
- Completes and updates annual chemical inventories as required

10 Safety Officer (Office of Environmental, Health, and Safety) Responsibilities

- Conducts periodic inspections on chemical inventories of laboratory/work area chemicals and assures that personnel exposure to risk is minimized according to safety policies and local, state, and federal regulations
- Serves as a resource for chemical/hazardous waste handling, storage, and disposal
- Removes hazardous waste when notified by Safety Officer Liaison
- Maintains contact with EPA and appropriate regulatory agencies and ensure policy is updated accordingly

11 General Safety Guidelines for Faculty/Staff Dealing with Hazardous Materials or Chemicals

Label all storage area and chemical properly

Use fume hoods whenever possible

Be familiar with safe procedures regarding materials

Be informed about the SDS available for all chemicals in laboratory/work areas

Wear proper eye protection

Wear protective clothing to protect against spills/splashes

Wear gloves when appropriate

Consider other protective equipment (head protection, hearing protection, respiratory, foot protection, etc.)

Wash hands before leaving laboratory/work area

Keep exposed skin covered

Avoid leaving long hair loose, wearing loose clothing, especially in close proximity to flames and operating machinery

Never use mouth to pipette chemicals

Follow fire prevention safety (store flammables in appropriate cans; do not store incompatible chemicals together; do not store flammables in standard refrigerators, etc.)

Report any compliance or other issues to the Safety Liaison, Safety Officer, and Supervisor immediately

12 Referenced and applicable documents

New Chemical/Material Safety Approval Form

Environmental Safety Request Form

13 History / participating departments

Changes to previous issue	Document Creation		
Participated in creation/modification	Last Name, First Name	Function	
	Dempster, Matthew	Director: Environment, Health, and Safety	
Change requests:	Requests shall be sent to the author of the document	Review Cycle	Annually

14 Supplementary sheets