

HAZARDOUS CHEMICAL HANDLING PROCEDURES

Bowie State University

I. Proper Storage and Labeling of Chemicals

1. Chemical Storage:

- a. All hazardous chemicals must be stored in clearly marked, secure, and well-ventilated areas, away from incompatible substances.
- b. Chemicals will be stored according to their hazard class (e.g., flammables, acids, bases, oxidizers, etc.), and a secondary containment system (e.g., spill trays, containment bins) will be used to prevent chemical leaks or spills from spreading.
- c. Storage areas must be equipped with emergency response equipment, such as spill kits and fire extinguishers, easily accessible to all employees.
- d. Flammable chemicals should be stored in approved flammable storage cabinets, and corrosive chemicals should be stored in corrosion-resistant cabinets.
- e. Ensure that chemicals are stored in their original containers with intact labels. If chemicals are transferred to secondary containers, these containers must be labeled with the appropriate chemical name, hazard warnings, and the supplier's information.

2. Chemical Labeling:

- a. All hazardous chemicals must be labeled with:
 - i. **Product Identifier** (chemical name or product code)
 - ii. **Signal Word** (e.g., Danger, Warning)
 - iii. **Hazard Statements** (describes the nature of the hazard, such as "flammable," "toxic," "corrosive")
 - iv. **Precautionary Statements** (recommended actions to minimize or prevent harm, such as "keep away from heat," "use in well-ventilated area")
 - v. **Supplier Identification** (name, address, and phone number)
- b. Labels must be legible, prominently displayed on containers, and never defaced or removed.

II. Procedures for Dealing with Chemical Spills and Accidents

1. Immediate Response:

- a. In the event of a chemical spill, the area should be immediately evacuated and cordoned off to prevent exposure to other personnel.
- b. Notify the supervisor and the Safety and Environmental Compliance Coordinator immediately.

- c. For small spills, trained employees may proceed with clean-up using the appropriate spill kit. For larger spills, call for emergency assistance from the facilities management team or emergency response personnel.
- 2. **Spill Response Procedures:**
 - a. **Personal Protective Equipment (PPE):** Ensure that appropriate PPE is worn based on the nature of the chemical and the size of the spill (e.g., gloves, goggles, face shields, respirators).
 - b. **Containment:** Use absorbent materials (e.g., spill pads, neutralizers, booms) to contain the spill and prevent it from spreading. If the chemical is water-reactive, avoid using water to clean up the spill.
 - c. **Clean-Up:** After containing the spill, safely collect and dispose of the spilled material and any contaminated cleanup materials (e.g., absorbent pads, gloves) in the appropriate waste containers. Refer to Appendix A for **Disposal of Contaminated Cleanup Materials**
 - d. **Ventilation:** If the chemical produces hazardous vapors or fumes, ensure proper ventilation (e.g., by opening windows or activating fume hoods) or evacuate the area as necessary.
- 3. **Accident Reporting:**
 - a. Any chemical spill or exposure incident must be reported immediately to the supervisor and Safety and Environmental Compliance Coordinator.
 - b. An accident investigation will be conducted to determine the cause of the spill or exposure and to implement corrective actions to prevent future occurrences.
 - c. Incident reports will be kept on file for review and follow-up.

III. Disposal of Chemical Waste in Compliance with OSHA and MOSH Guidelines

- 1. **Chemical Waste Identification:**
 - a. Identify chemical waste according to its classification (e.g., hazardous, non-hazardous, corrosive, flammable, reactive). Ensure that each waste container is clearly labeled with the chemical name(s), hazard classification, and date of accumulation.
 - b. Waste should be segregated based on compatibility (e.g., acids and bases should not be stored together).
- 2. **Proper Disposal Procedures:**
 - a. All chemical waste must be disposed of in accordance with local, state, and federal regulations, including **OSHA** and **MOSH** guidelines.
 - b. Hazardous waste must be disposed of by a licensed and certified hazardous waste disposal company.
 - c. Waste disposal containers must be tightly sealed and placed in designated hazardous waste storage areas that are labeled and secure.

- d. Chemical waste must never be disposed of in regular trash or down the drain. If in doubt, contact the Safety and Environmental Compliance Coordinator for guidance.
3. **Documentation:**
- a. A log of all hazardous waste disposal actions must be maintained. This includes the type of waste, amount, disposal method, and disposal company used.
 - b. The Safety and Environmental Compliance Coordinator will ensure that all records are kept up to date and available for inspection.

IV. Use of Appropriate Personal Protective Equipment (PPE)

1. **General PPE Guidelines:**
- a. Personal protective equipment (PPE) must be used whenever there is a risk of exposure to hazardous chemicals. The selection of appropriate PPE will be based on the chemical hazard classification and the specific tasks being performed.
 - b. All employees working with hazardous chemicals must be trained on how to properly select, use, and maintain PPE.
2. **Types of PPE:**
- a. **Gloves:** Chemical-resistant gloves must be worn when handling hazardous chemicals. The specific type of gloves will depend on the chemical being handled (e.g., nitrile gloves for general use, neoprene or rubber gloves for stronger chemicals).
 - b. **Goggles/Face Shields:** Protective goggles or face shields must be worn to protect the eyes from splashes or vapors when handling chemicals.
 - c. **Respirators:** If chemicals are being handled that generate toxic fumes, vapors, or dust, employees must wear the appropriate respirator (e.g., N95, half-mask, full-face). Respirators must be properly fitted and maintained according to OSHA guidelines.
 - d. **Protective Clothing:** Lab coats, aprons, or other protective clothing should be worn to prevent chemical exposure to the skin and body. In cases where there is a risk of splashes or immersion, chemical-resistant suits should be used.
 - e. **Foot Protection:** Safety shoes or boots that are resistant to chemical penetration should be worn if chemicals are being handled in liquid form or are in close proximity to the floor.
3. **PPE Maintenance and Inspections:**
- a. PPE must be regularly inspected for wear and tear. Any damaged or defective PPE must be replaced immediately.
 - b. PPE should be cleaned and sanitized regularly to ensure it remains functional and free of chemical contamination.

By following these procedures for chemical handling, storage, labeling, spill response, waste disposal, and PPE usage, Bowie State University can maintain a safe work environment that complies with **OSHA** and **MOSH** standards. Proper adherence to these procedures will help minimize the risk of chemical exposure and ensure the health and safety of all employees.

Appendix A

Disposal of Contaminated Cleanup Materials

1. Identify the Contamination:

- a. Before disposing of any cleanup materials, it is essential to identify the type of chemical contamination (e.g., flammable, toxic, corrosive, reactive, etc.) and its potential hazards.
- b. If you're unsure of the type of chemical, refer to the Safety Data Sheet (SDS) for information about the chemical properties and safe disposal methods.

2. Segregate Waste:

- a. Contaminated cleanup materials should be segregated based on the type of chemical hazard present (e.g., flammable materials should be kept separate from corrosive or reactive waste).
- b. Ensure that different types of contaminated materials are not mixed to prevent dangerous reactions.

3. Containment:

- a. Place contaminated cleanup materials in suitable, labeled waste containers. The containers should be appropriate for the type of material (e.g., flammable waste containers for materials contaminated with flammable liquids).
- b. Containers must be clearly labeled with the following information:
 - i. **Contents** (e.g., "Contaminated rags with solvent")
 - ii. **Hazard class** (e.g., flammable, toxic)
 - iii. **Date of disposal**
 - iv. **"Hazardous Waste" label if applicable** (as per OSHA and MOSH regulations)
- c. Ensure that containers are tightly sealed to prevent leaks or spills during transport.

4. Disposal by Licensed Waste Disposal Services:

- a. All contaminated cleanup materials that are classified as hazardous waste must be disposed of by a licensed hazardous waste disposal contractor. This service should comply with OSHA, MOSH, and EPA regulations for hazardous waste management.
- b. The waste disposal contractor should be provided with a **Hazardous Waste Manifest**, which details the contents and proper handling requirements of the waste.

5. Non-Hazardous Waste:

- a. If the contaminated cleanup materials are not classified as hazardous waste (e.g., if they were contaminated with non-hazardous chemicals or substances), they may be disposed of in accordance with local and state guidelines for non-hazardous waste.

- b. However, they should still be placed in a sealed container, and the waste should be properly labeled to identify the contents.

6. Documentation and Record Keeping:

- a. Maintain records of all contaminated cleanup materials and their disposal. These records should include:
 - i. A description of the materials disposed of
 - ii. The amount or weight of the materials
 - iii. The date of disposal
 - iv. The name of the licensed waste disposal company used
 - v. Any related incident reports or chemical spill documentation
- b. These records must be kept for a minimum of **3 years** in compliance with **OSHA** and **MOSH** guidelines.

7. Emergency Response:

- a. In the case of a spill or exposure incident during cleanup, follow the procedures outlined in **Hazardous Chemical Handling Procedures** (spill response, PPE, first aid, etc.).
- b. If the cleanup materials pose an immediate environmental threat (e.g., chemical contamination of water or soil), notify emergency response personnel immediately.