

SOP: Chemical Handling, Storage, and Spill Response Procedures

This SOP details **chemical handling, storage, and spill response procedures**, emphasizing safe practices for the proper use, containment, and disposal of chemicals. It includes guidelines for labeling, personal protective equipment (PPE), storage conditions to prevent contamination and accidents, spill prevention strategies, and immediate response actions to control and clean up chemical spills. The goal is to protect personnel, the environment, and property by minimizing the risks associated with chemical hazards through systematic and effective management protocols.

1. Purpose

To provide standardized procedures for the safe handling, storage, and response to chemical spills, ensuring safety of personnel and protection of property and the environment.

2. Scope

This SOP applies to all personnel who handle, store, or respond to spills of chemicals in the facility.

3. Responsibilities

- Supervisors:** Ensure staff follow procedures and receive appropriate training.
- Personnel:** Follow safe practices outlined in this SOP.
- Environmental Health & Safety (EHS):** Oversee compliance and provide support during incidents.

4. Definitions

Term	Definition
Chemical	Any substance that may pose a physical or health hazard.
PPE	Personal Protective Equipment (gloves, goggles, lab coat, etc.).
SDS	Safety Data Sheet with chemical hazard information.

5. Procedure

5.1 Chemical Handling

- Review the SDS for all chemicals before use.
- Wear appropriate PPE (gloves, safety goggles, lab coat, etc.).
- Use chemicals in well-ventilated areas or fume hoods as required.
- Avoid direct contact with chemicals; use appropriate tools (pipettes, spatulas, etc.).
- Never eat, drink, or apply cosmetics in areas where chemicals are handled.
- Dispose of chemical waste according to facility protocols and local regulations.

5.2 Labeling

- Clearly label all chemical containers with:

- Full chemical name (no abbreviations).
- Hazard class and pictogram, if applicable.
- Date received and opened.

2. Never use unlabeled chemicals.

5.3 Chemical Storage

1. Store chemicals in designated, labeled storage areas according to compatibility (flammables, corrosives, etc.).
2. Segregate incompatible chemicals (see SDS or compatibility chart).
3. Keep storage areas clean, dry, and well-ventilated.
4. Secure chemicals to prevent unauthorized access.
5. Inspect storage areas regularly for leaks or deterioration.

5.4 Spill Prevention

1. Work with the minimum required quantity of chemicals.
2. Use spill trays, secondary containers, and containment measures.
3. Keep workspaces uncluttered to avoid accidents.
4. Maintain spill kits at key locations with appropriate absorbents and neutralizers.

5.5 Spill Response

1. Alert personnel in the vicinity and evacuate if necessary.
2. Assess the hazard:
 - Size and type of spill.
 - Potential for harm to people, property, or the environment.
3. If safe and trained to do so, contain and clean up minor spills using spill kit:
 - Wear PPE.
 - Ventilate area if possible.
 - Use absorbents/neutralizers for cleanup.
 - Dispose of contaminated materials as hazardous waste.
4. For major spills, evacuate area and call EHS or emergency services immediately.
5. Complete incident report and review procedures post-cleanup.

6. References

- OSHA Laboratory Safety Standard (29 CFR 1910.1450)
- MSDS/SDS for handled chemicals
- Facility-specific Emergency Action Plan

7. Revision History

Date	Revision	Description
2024-06-01	1.0	Initial SOP release