



## Hazardous Materials Spill Emergency Response Plan

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## I. [Purpose](#)

The consequences of hazardous materials spills should be considered before they happen. The purpose of this policy is to establish preparation guidelines for the event of a chemical, radioactive, or biohazardous spill, or a combination thereof.

## II. [Scope](#)

This policy applies to everyone associated with the University of Wyoming (UW), and is inclusive of buildings and grounds owned, operated, and maintained by the University of Wyoming.

## III. [Preparation, Hazard Prevention and Training](#)

- A. Advance preparation can prevent a small spill from becoming a tragedy.
- B. Become familiar with a chemical's hazards before using it.
  - 1. Perform a thorough Hazard Assessment for each workplace. (Refer to UW [General Workplace](#) or [Laboratory Hazard Assessment](#) procedures.)
  - 2. Refer to the Safety Data Sheet (SDS) and [Standard Operating Procedures](#) (SOPs) for appropriate safeguards.
  - 3. Be prepared with the proper emergency equipment and spill kits before a spill happens. Proper spill kits are explained in further detail in Section VI.
- C. Each department that uses hazardous chemicals is responsible for training their employees in the location and proper use of spill kits, and the use of appropriate personal protective equipment (PPE).
- D. Environmental Health & Safety (EHS) will assist in training by providing advice and personnel resources.

## IV. [Reporting a Spill](#)

- A. These types of spills must be reported:
  - 1. Health-threatening.
  - 2. When trained people and/or proper clean-up equipment are not available.
- B. Phone numbers to call:
  - 1. EHS (766-3277) during the workday;
  - 2. UW-Police Department (UWPD) (766-5179); or

3. Laramie / Albany County Records & Communication Center (LARC, 911) after hours

C. Before reporting a spill, consider the following:

1. Restrict access: To prevent injury to yourself or others and also the spread of contamination, allow only properly trained and equipped personnel to enter the area.
2. Containment: If it is feasible to safely stop the spill from spreading or going into a floor drain, do so.

D. You should be prepared to give the following information:

1. Identity of material spilled
2. Quantity of material spilled
3. Hazards of the material
4. Extent of the spill
5. Type and extent of injuries

**Stay on the line to answer questions.**

V. [Severity of Spill](#)

- A. Spill severity depends on the material that has been released. A small release of 20 ml's of acetone would not be as hazardous as a large spill of mercury. Therefore, the size and material released will determine the response to the spill.
- B. If you are unsure, call for help (see section IV. Reporting a Spill above).

VI. [Responsibility for Clean-up](#)

- A. The responsibility for clean-up of a spill of hazardous material is based on the level of hazard of the spill itself, and the degree of training and personal protective equipment (PPE) required.
- B. In order to determine who should clean up a spill, you should be familiar with the materials with which you are working.
  1. Read the SDS and SOP before you start working with the chemical, and know what you would do if a small quantity or a large quantity was spilled.
  2. If in doubt about the severity, ask your supervisor, or call the phone numbers listed in section IV. Reporting a Spill above.

- C. Departments are responsible for cleaning spills that are not health-threatening and for which trained people and proper clean-up equipment are on hand. In other words, spills which are small in nature and require a minimum of PPE.
  - 1. In these situations, the only PPE required may be what is normally worn on the job, e.g., gloves, safety glasses, rubber aprons, or lab coats.
  - 2. EHS will supervise the clean-up of such a spill if desired.
- D. EHS will respond to elevated hazard spill situations where there is need for a "splash suit" and an air-purifying respirator.
  - 1. Employees trained through the EHS Respiratory Protection Program may use respirators.
- E. The Laramie Fire Department will respond to spills requiring totally encapsulated suits and/or self-contained breathing apparatus (SCBA).

## VII. [Spill Types and Spill Kits](#)

- A. Every department or unit shall make appropriate spill kits readily available to employees who handle hazardous materials. The spill kits shall have enough material to handle common spills. For example, agents sufficient to neutralize 1 pint of an acid is not enough to take care of a 1 gallon spill.
- B. There are five types of spill kits. Following is a list of the types of kits and the minimum requirements for each kit.
  - 1. Flammables
    - a. Flammable material which is easily ignited and burns with extreme rapidity. The two primary measures of this physical hazard are the flashpoint and the autoignition temperature.
    - b. The requirements for flammable spill kits include a sorbent that will not only contain the liquid, but also hold the vapors, a sealed container for the residue, and non-sparking tools.
  - 2. Radioactive
    - a. [Radioactive materials](#) are byproduct material, special nuclear material, or source material. Includes sealed or unsealed unstable isotopes that are: 1) produced in nuclear reactors or accelerators; 2) artificially enriched special nuclear (fissionable) materials; or 3) discrete forms of radium or other natural radionuclides.
    - b. The requirements for a radioactive spill kit include a sorbent material to contain and remove radioactive liquids, surfactant soap, wash rags or

sponges, and a sealable container in which to place contaminated material. Choose the sorbent material based on the chemical hazard of the spilled material. A survey meter and/or wipe test will be necessary to check for contamination. (For more details on radioactive materials emergencies, refer to Appendix E of the UW [Radioactive Materials Safety Plan](#).)

### 3. Mercury

- a. A heavy, silver-white, highly toxic metallic element, the **only** one that is liquid at room temperature.
- b. The requirements for a mercury spill kit include a spatula, scoop or suction device, specially treated sponges or wipes, decontaminating material, and a sealed container in which to place contaminated material.

### 4. Corrosive

- a. A chemical, that is in liquid, solid or gaseous form that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact.
  - i. Acids: A compound that undergoes dissociation in water with the formation of hydrogen ions. Acids have pH values below 7 and will neutralize bases or alkaline media. Acids will react with bases to form salts. Acids have a sour taste and with a pH in the 0 to 2 range cause severe skin and eye burns.
  - ii. Bases: A compound that has the ability to neutralize an acid and form a salt. Alkali also forms a soluble soap with a fatty acid. Alkalis have pH values above 7 to 14. They are bitter in a water solution. Alkalis with pH values between 12 to 14 are considered to be corrosive (caustic) and will cause severe damage to the skin, eyes and mucous membranes. Common strong alkalis are sodium and potassium hydroxide.
  - iii. The requirements for an acid/base spill kit include a neutralizing material (not just a sorbent), indicators that neutralization is complete, and sealed containers for any residue collected.

### 5. Biohazardous material

- a. A **biohazardous** spill involves material containing or suspected of containing hazardous biologicals such as infectious agents, recombinant DNA materials, toxins from biological origin, human blood, and other potentially infectious human sourced materials.
- b. The requirements for a bio-hazardous spill kit include an appropriate disinfectant (1:10 dilution of household bleach), an autoclavable squeegee, autoclavable dustpan, forceps, and soap, and a sealable container into

which to place any residue collected. (For more details refer to the UW [Biohazardous Spill Clean-up Guidelines](#).)

- C. Other materials might require special spill kits, e.g., hydrofluoric acid.
- D. Proper PPE should be included in each kit. Refer to the SDS, [Chemical Safety Program](#) guidelines, the [Radioactive Materials Safety Plan](#), or the [Biohazardous Spill Clean-up Guidelines](#) for more information on PPE.
- E. Spill kits are available commercially, or may be assembled by the departments. Call EHS, 766-3277, for advice.
- F. The presence of spill kits will be checked during EHS or OSHA inspections.

### VIII. [Decontamination](#)

- A. A spill can be considered cleaned when the hazards are no longer present. Verification of clean-up can be performed by EHS, if requested.
- B. People need to be decontaminated, as well as property. Refer to [Chemical Safety Program](#) guidelines, [Radioactive Materials Safety Plan](#) or [Biohazardous Spill Clean-up Guidelines](#) for specifics.

### IX. [Disposal after Cleanup](#)

- A. Residues from the clean-up of hazardous materials spills are hazardous, and they must be disposed of through the [Hazardous Waste Program](#). Refer to the procedures for [Hazardous Waste Disposal](#).
- B. If EHS has assisted with the clean-up, EHS personnel will help fill out the forms for disposal.
- C. Contact EHS if there is doubt concerning disposal of any clean-up material.

### X. [Medical Monitoring](#)

- A. If the spill has caused injuries or an exposure to a hazardous material, report the incident to your supervisor within 72 hours of its occurrence. Medical exams for an exposed employee may be arranged according to Wyoming Worker's Compensation procedures.