

Spill Control General Guidelines

Version: May 2020



Research Safety

Office of Research

UNIVERSITY OF GEORGIA

I. Purpose & Scope

This document is meant to provide an overview of the University's requirements and recommendations for handling incidental and major spills within the laboratory. Improper or negligent use of personal protective equipment (PPE) during a spill cleanup could result in serious injury to yourself or others. Please refer to individual chemical safety data sheets (SDS) and/or internal laboratory standard operating procedures (SOPs) for appropriate spill mitigation procedures specific to a given chemical.

II. Incidental Spills

For the purposes of this document, an **incidental** spill is defined as a spill that meets the following criteria:

- A spill of any substance that is classified as non-hazardous under the Globally Harmonized System (GHS). These substances will not have any pictograms, signal words, or hazard statements listed in Section 2 of their SDS.
- A spill of a substance that is classified as hazardous under the GHS but which does not pose a significant safety or health hazard to employees in the immediate vicinity or to the employee cleaning up the spill nor does it have the potential to become an emergency within a short time frame.
- A spill of a mixture or working reagent that according to the Principal Investigator (PI) or lab supervisor's discretion does not pose a significant safety or health hazard to employees in the immediate vicinity or to the employee cleaning up the spill nor does it have the potential to become an emergency within a short time frame.

Incidental spills are limited in quantity, exposure potential, and toxicity and present only minor safety or health hazards to employees in the immediate work area. Incidental spills can usually be cleaned up by laboratory personnel provided that appropriate PPE, spill kit, and proper spill absorbents are kept on hand. If lab personnel feel ill-prepared or uncomfortable cleaning up the spill, contact the Office of Research Safety (ORS) for assistance. If the spill occurs outside of normal business hours, dialing 911 will reach UGA dispatch and they will then contact the ORS on-call personnel.

- Most incidental spills of flammable liquids, caustic solutions, and some toxic solutions can be absorbed utilizing an inert absorbent or absorbent pads.

- Incidental spills of strong acids may be absorbed and then neutralized with an aqueous solution of sodium bicarbonate or sodium carbonate. **NOTE:** Any spill of hydrofluoric acid should be reported to the Office of Research Safety and an attempt to clean up the spill should only be done by personnel familiar with proper neutralization techniques for hydrofluoric acid.
- For mercury spills from broken equipment in which the volume is less than 25mL (e.g., a mercury thermometer), laboratories can utilize a mercury spill kit to clean the mercury beads. Any mercury spill larger than 25mL or a mercury spill in a lab that does not have a mercury spill kit, should be reported to ORS. For information on how to purchase a mercury spill kit, please contact ORS.
- Spills of solid substances that are toxic should be cleaned using dampened absorbent pads (**NOTE:** if the substance is water reactive, the use of dampened absorbents is not recommended; contact ORS for assistance). Avoid using brushes or brooms to clean up solid spills of toxic material as these can generate airborne particles, making laboratory personnel susceptible to inhalation hazards.
- Any materials and disposable PPE used during the cleanup of a spill should be disposed of as hazardous waste. Gather all spent materials together, properly label them as hazardous waste, and set aside in the laboratory's satellite accumulation area. For assistance with labeling and with pickup, please contact the Environmental Safety Division.

III. Major Spills

For the purposes of this document, a **major** spill is defined as a spill that meets any of the following criteria:

- A spill or release of a hazardous substance or mixture which may cause high levels of exposure to toxic or corrosive substances.
- A spill or release that requires the evacuation of an area and/or poses conditions that, in the discretion of the PI or lab supervisor, creates a situation that is immediately dangerous to life and health.
- A spill or release that creates a fire or explosion hazard.
- A spill or release in which lab personnel have either been exposed to a hazardous substance or injured so as to require more than basic first aid or in which damage to university property has occurred.
- A spill or release of a hazardous substance or mixture as defined by GHS that has resulted in a discharge to the sewer system.
- Any other spill which lab personnel do not feel comfortable cleaning up without assistance.

For any major spill, laboratory personnel should not attempt to clean up the spill and should contact the Office of Research Safety as soon as possible. If the spill occurs outside of normal business hours, dialing 911 will reach UGA dispatch who will then contact the ORS on-call personnel.

IV. Additional Considerations

The principal investigator must ensure that all serious injuries requiring medical attention be reported by calling 911. All incidents that result in an injury to students, visitors, staff, or faculty must report the injury by following the Supervisor's Guide to the Worker's Compensation Process made available by UGA Human Resources.

Proper first aid for a chemical exposure or chemical related injury will be highly dependent upon the type of chemical to which personnel have been exposed. Please contact ORS and consult the SDS for the specific substance for guidance regarding appropriate first aid procedures in the event of an injury or exposure.

All laboratories that handle hazardous chemicals shall have an appropriate supply of spill cleanup supplies prominently displayed or with the kit's location clearly posted. Additionally, new lab personnel should be familiarized with the location of any spill kit as part of their orientation and training by the Principal Investigator or lab manager. The supply must be capable of containing or cleaning up incidental spills and limiting the spread of major spills if feasible. Laboratory personnel should not attempt to clean up a spill of hazardous chemicals if appropriate spill cleanup supplies and protective equipment are not available, or if the spill would be considered major based on the criteria within this SOP. In these cases, contact the Office of Research Safety for assistance.

V. **Contacts**

Environmental Safety Division: 706-542-5801

Office of Research Safety: 706-542-5288

VI. **References**

Prudent Practices in the Laboratory: Handling and Management of Chemical Hazards, National Research Council, 2011.

UC, Center for Laboratory Safety

Code of Federal Regulations, 29CFR 1910.120 and 1926.65, Emergency Response to Hazardous Substance Releases