

Chemical Spill-General Guidelines

Purpose

This document describes the general procedures used by Carleton University faculty, staff and students to respond to spills or releases of laboratory chemicals.

Refer to your Lab-Specific Chemical Spill Response Procedures (found in your lab/workspaces) when dealing with releases of hazardous chemicals.

Responsibilities

Students, faculty and staff must be familiar with the chemicals that are used and located in their laboratory or workspace. **Consult the Safety Data Sheets.** It is their responsibility to follow the procedures described in the SOP, and to understand the hazards and safe practices when dealing with spills associated with materials in their lab/workspace.

Laboratory specific emergency response procedures must be developed. This document and specific chemical spill response procedures are to be used as a guide for chemical release procedures when completing your laboratory spill template. Special spill cleanup procedures (e.g. Hydrofluoric Acid, Mercury, Radioactive Materials, Biohazardous Materials) may also be required and must be developed.

Laboratory personnel must review this SOP and any other SOPs pertaining to their lab/workspace prior to beginning work. Labsafety and practical training on emergency response procedures is recommended. Locate the spill kit in your area and become familiar with its contents.

Personal Protection Equipment (PPE)

The PPE required for safe chemical clean-up are based on Lab-specific requirements. PPE may include the following:

- Gloves*
- Shoe Covers
- Apron
- Safety Glasses
- Goggles*
- Respirator*

***NOTE:** Ensure gloves are appropriately chemically resistant. Some hazards require the use of goggles and/or a respirator. Whenever the use of a respirator is required ensure it is equipped with the correct filter(s) for the specific hazard. **All persons using a respirator must be fit-tested prior to use.**

Spill Kit Contents

- Lab-Specific Chemical Spill Response Procedures
- Waste Bags
- Dustpan Set
- Caution Tape
- Marker
- Hazardous Waste Labels
- Gloves
- Shoe Covers
- Apron
- Safety Glasses
- Absorbent Socks
- Drain Stoppers
- Universal Spill Pads
- Granular Absorbent

NOTE: Some labs/workspaces may require additional spill kit materials based on the chemical hazards present. It is the supervisor's responsibility to stock required contents. Complete the "Recommended Spill Kit Inventory" for your laboratory.

Procedure

Where a hazard is believed to present an immediate danger, contact Campus Safety Services at (613) 520-2600 ext. 4444 IMMEDIATELY.

General Spill Response

Response procedures vary depending on whether the event is considered a "minor" or "major" spill. A minor spill can be cleaned up safely by laboratory personnel whereas a major spill requires emergency response assistance. An individual discovering or causing a spill or release event must quickly assess the situation and determine if they are comfortable with performing the clean-up or if additional help is required. In any event personal safety is paramount.

1. Stay clear and warn others.

Proceed with caution and advise others that are in the immediate area of the spill/potential danger

2. Assist Injured or contaminated persons.

If persons are seriously injured, call Campus Safety Services at **(613) 520-2600 ext. 4444** for medical assistance and first aid. Provide first aid if you or another available individual is trained to do so. If person(s) are contaminated by the spilled chemical, lead them to the nearest eyewash or emergency shower (depending on the extent / location of the contamination), and assist in washing off the material if safe to do so. Depending on the chemical, additional treatment may be required. Consult the Safety Data Sheet and/or specific laboratory procedures. Injuries resulting from chemical spills are often medical emergencies. Do not put yourself at risk.

3. Assess the situation. Is this an emergency?

An emergency situation exists when there is a high risk to persons, property, or the environment.

- Evaluate the following to assess the situation
 - a) What are the properties of the spilled chemical?
 - b) What is the quantity spilled?
 - c) Are lab-specific chemical spill response procedures in place?
 - d) Is the spill kit outfitted with what I require to safely clean up the spill?
 - e) Do I have the knowledge and confidence to clean up the spill?

4. In an emergency, call Campus Safety Services at (613) 520-2600 ext. 4444.

- Provide the following information when requesting assistance:
 - a) Identify yourself
 - b) Nature of the incident (e.g. fire, explosion, chemical spill, gas leak)
 - c) Location of the incident (building and room number)
 - d) Any injuries present
 - e) When the incident occurred
 - f) How the incident occurred

Minor Spill Response

Minor spills in the controlled laboratory that present no immediate, significant threat to personal health or of being released to the environment, should be cleaned up by the person(s) responsible for the spill if they are comfortable doing so.

Minor Spill or Release is when ALL of the following conditions are met:

- ✓ The responsible party is at the scene; and
- ✓ The material spilled is known and;
- ✓ The material spilled is not highly toxic; and
- ✓ The quantity spilled is small (less than approximately 4L); and
- ✓ There is no fire hazard present; and
- ✓ The spill is completely contained inside a building; and the spilled material has little or no potential to reach the environment (e.g., via a drain); and
- ✓ The spill is not in a common area or other area accessible to the general public; and
- ✓ Advanced personal protective equipment, (i.e. self-contained breathing apparatus (SCBA)) is not needed to respond to the spill; and
- ✓ On-site personnel are trained, equipped, and able to clean up spill

Perform the following only if all hazards have been identified and assessed, appropriate personal protective equipment and clean up materials are available and someone is available to assist.

1. Gather **spill kit** supplies.
2. Don the appropriate **personal protective equipment**.
3. **Contain the spill** using appropriate spill absorbent (that will not react with spilled chemical). Place absorbent sock(s) around the perimeter of the spill and protect floor drains to prevent releases to the environment.
4. **Cover the spill** starting from the perimeter working your way inwards.

5. Slowly ***mix the spill absorbent*** with the spill. Be vigilant when working with loose absorbents as to not create dust.
6. Once all the spilled material has been absorbed, carefully scoop the material into an impervious container and ***dispose as hazardous waste***.
7. ***Clean the affected area*** with an appropriate decontamination agent.
8. ***Report*** the incident to your supervisor and through [CU WorkSafe](#)
9. ***Ensure spill kit supplies are restocked***

Major Spill Response

Major spills present an immediate and significant threat to personal health and/or of being released to the environment. Safe clean up requires emergency response assistance by trained personnel. Follow emergency procedures.

Major Spill or Release when ANY of the following conditions apply:

- ✓ The responsible party is unknown; or the material spilled is unknown; or
- ✓ The material spilled is highly toxic; or
- ✓ A large (>4L) or undetermined quantity was spilled; or
- ✓ A significant fire hazard may be present; or
- ✓ Someone has been exposed to the material; or
- ✓ The spill occurred outside; or
- ✓ The material has the potential to reach the environment (e.g., via a drain); or
- ✓ The spill is in or affects a common area accessible to the general public; or
- ✓ Advanced personal protective equipment (i.e. self-contained breathing apparatus (SCBA)) is required to respond to the spill; or
- ✓ Someone requires first aid; or
- ✓ On-site personnel are not trained or not equipped to clean up spill; or
- ✓ A responder is unsure whether the spill should be considered “Minor” or “Major”.

Perform the following in an emergency.

1. ***Evacuate immediate area.***
2. Call Campus Safety at **(613) 520-2600 ext. 4444**. Identify yourself, nature of the incident (e.g. fire, explosion, chemical spill, gas leak), location of the incident (building and room number), any injuries present, when and how the incident occurred.
3. ***Wait in a safe area*** for the response team. Your knowledge of the incident will assist the team.
4. ***Do not allow*** unauthorized personnel to enter the contaminated area.
5. ***Report*** the incident to your supervisor and through [CU WorkSafe](#)

Reporting

All workplace injuries, illnesses, and incidents including spills that have already been cleaned up must be reported immediately to the workplace supervisor and through [CU WorkSafe](#).

Resources

[CU WorkSafe-Spill Reporting](#)

[Biosafety Manual](#)

[Emergency Shower and Eye Wash Guidelines](#)

[Hazard Identification](#)

[Hydrofluoric Acid Lab Specific S.O.P.](#)

[Laboratory Safety Manual](#)

[Personal Protective Equipment](#)

[Radiation Safety Manual](#)

[Respirator FAQ's](#)

[Safety Data Sheets](#)

[Working with Air and Water Reactive Chemicals](#)