



Department: _____

Lab/Room Number: _____

PI/Lab Coordinator: _____

After-hours Contact Number: _____

- University Public Safety - 911
- Fire, Police, Ambulance - 911
Fire dept. will contact Hazardous Materials Team, if necessary
- Environmental Health & Safety - 335-8501

911 EMERGENCY

If there is a:

- Fire or explosion;
- Rescue needed; or
- Serious personal injury or life threatening situation

CALL 911 and:

- Activate alarm system to warn people to evacuate;
- Turn off general ventilation, if possible, leave fume hood on;
- Close windows/doors and secure area;
- Assemble at safe distance and account for people;
- Collect spill info and SDS; and
- Wait for and provide information to responders.

In the event of an emergency or disaster, the University of Iowa - Department of Public Safety will secure and control the scene.

SPILL RESPONSE PLANNING

At The University of Iowa, individuals are responsible for their own spills. Each hazardous material user must be ready and equipped to handle a spill. Critical elements for a safe and effective response are: information and knowledge of materials used, adequate spill response supplies, adequate training, and knowing when and who to call for assistance.

The Lab Standard and Right-to-Know Programs require emergency and spill response training. When preparing your response plan, consider the location, existing ventilation, and nature of potential spills. EHS is available for guidance and training to facilitate your response planning.

To prepare:

1. Collect **Safety Data Sheets (SDSs)** for the hazardous materials you use. SDSs are maintained in VelocityEHS, which can be accessed through any computer; [MSDSOnline](#) or by calling 888-362-7416. By keeping the chemical inventory up-to-date in EHS Assistant, EHS Chemical Safety Staff will update VelocityEHS with newly purchased SDSs. Active EHS Assistant users can access the inventories and SDSs from outside the lab in the event of an emergency.
2. **Understand** the properties and hazards of the materials before beginning to use them.
3. Maintain a **call list** (daytime and after-hours) of individuals who should be notified in an emergency.
4. Collect and maintain **spill response supplies**. Sources include: lab safety suppliers, Biochemistry, and Chemistry Stores.
5. Know the location of and how to use **emergency equipment** such as emergency showers and eye washes.
6. **Train and practice** for effective spill response.

Contact the Chemical Hygiene Officer at 335-9379 with questions regarding spill response planning.

Although most spills can be managed by trained personnel in the area of the spill, EHS may be used as a resource to guide you through cleanup of your own simple spill. When calling EHS for spill response guidance, it will be given in one of two ways:

- Guidance will be given on the phone or in person to help you safely manage and clean up a simple spill (one that is not endangering people or the environment and is not spreading rapidly) or;
- You may be advised to call 911, evacuate, and wait for emergency responders. Responders will contain the spill to control immediate health and environmental hazards. If additional cleanup or decontamination is required, the individual or department responsible for the spill would complete cleanup or, if unable, contract with specialized cleanup services.

HOW TO RESPOND TO SPILLS

Attend to personal injuries

Clothing on fire

Roll person on floor to smother flame, drench with water if immediately available.

Splash in eyes

Immediately rinse eyes with water continuously for 15 minutes. Forcibly hold eye open to rinse behind eyelids. Obtain medical attention.

Spill on body

Remove contaminated clothing and flood exposed area with running water from faucet or safety shower for 5 minutes. Make sure spill has not accumulated in shoes. For biological spills, wash with soap and water.

Minor cuts and puncture wounds

Wash vigorously with soap and water.

Report all personal injuries to your supervisor.

Medical attention is available 24 hours at UIHC Emergency Treatment Center, telephone 356-2233.

Assess the risk

Simple spills meet all these criteria:

- do not spread rapidly
- do not endanger people or the environment except by direct contact
- can be managed safely by people trained to use the material

Major spills meet any one of these criteria:

- spreads rapidly
- involves a personal injury or rescue
- endangers people or the environment
- presents an inhalation hazard
- has created significant contamination for personnel (radioactive materials)

Initiate action

Simple spill:

- Keep the area clear
- Notify any affected people
- Plan and Initiate clean-up
- Call EHS for advice, if needed

Major spill:

- Dial 911
- Activate alarm, evacuate, and assemble at a safe distance
- Account for people; warn others not to enter
- Wait for and provide information to responders

RADIOACTIVE SPILLS

General guide for radioactive spills

- Restricting movement of all personnel is essential; movement of people around a radiation spill can spread radiation beyond the immediate spill area.
- Consider persons in area contaminated until monitoring proves otherwise.
- Dispose of cleanup materials as radioactive waste.
- Safely store non-disposable contaminated items for decontamination or decay.
- Report all spills to your PI/supervisor and EHS.

Simple spills

A simple radioactive materials spill is one that is manageable and can be cleaned up as a non-emergency.

Simple Spill description includes:

- can be safely managed by knowledgeable personnel
- personnel contamination can be prevented or controlled
- minimal potential to endanger personnel or the environment
- spread can be contained and controlled
- area or equipment can be isolated and cleaned up under non-emergency conditions
- personnel exposure to volatile material can be prevented

Simple Radioactive Materials Spill Actions

- Alert people in the spill area.
- Monitor them for contamination using a survey meter and decontaminate as necessary.
- Wear protective apparel; place absorbent pad over liquid spills, damp absorbent pad over solid spills.
- Place spilled material in a radioactive materials waste container; then clean with normal lab cleaning agents, working from outer spill edges inward.
- Monitor area and personnel.
- Repeat cleanup until no contamination is detected, disposing of all clean-up materials as radioactive waste.
- Notify EHS at 335-8501 and your PI or supervisor.

Major Spills

A major radioactive materials spill or emergency meets any one of the following criteria:

- spreads rapidly
- endangers people or involves serious personal injury
- endangers the environment
- has created significant personnel or equipment contamination

Major Radioactive Materials Spill Actions

- Evacuate the area; close doors and prevent entrance into area.
- Have potentially contaminated people stay in one area until they have been monitored.
- Call 911 immediately; notify EHS at 335-8501 as soon as possible.

BIOLOGICAL SPILLS

General guide for biological spills

- Wash hands/face before and after cleanup.
- Put on fresh pair of disposable gloves before starting cleanup.
- A 10% household bleach solution is commonly used as a disinfectant, allowing 20 minutes contact time; however, use the recommended disinfectant and contact time for the material you are handling.
- Dispose of cleanup materials as biohazard waste.
- Report all spills to your PI/supervisor and EHS.

Spills *inside* a Biological Safety Cabinet (BSC)

- Follow general guidance above.
- Keep cleanup materials inside the BSC (removing hands from inside the cabinet disperses potentially contaminated aerosols outside the cabinet).
- Leave the BSC running during cleanup and at least 10 minutes after completion.
- Work cautiously and thoroughly, taking care not to spread the spill area and not to disturb the air at the face of the BSC.
- Use a clean cloth and disinfectant solution to wash interior surfaces of the BSC.
- For moderate to high risk spills, flood catch basin (tray under the work surface) with disinfectant and wipe up.

Spills *outside* a BSC

Spills *outside* a BSC generate aerosols, creating a greater hazard than spills *inside* a BSC.

The spilled organism's biohazard risk group determines the cleanup method and level of containment [e.g., risk group 2 requires Biosafety Level 2 (BSL2) procedures].

BSL1 containment required

- decontaminate with disinfectant
- clean up with disposable towels and
- disinfect/clean area again

BSL2 containment required

- alert people in spill area
- evacuate for 30 minutes
- notify EHS's Biosafety Officer at 353-5679
- wear gloves, lab coat, goggles, and shoe covers (if necessary) to:
 - isolate spill area
 - apply absorbent to prevent spreading
 - pour disinfectant around spill edges
 - cover with disinfectant-soaked paper towels
 - work from edges inward
 - clean area again with disinfectant, allowing appropriate contact time

CHEMICAL SPILLS

General guide for chemical spills:

- Isolate the spill area and alert others in the area.
- Determine identity of spilled material and consult SDS to determine potential hazard(s).
- Avoid breathing vapors, get as much fresh air into area as you can safely.
- Establish ventilation to the outside if safe to do so and action does not spread the contaminant through the building.
- Use absorbents and neutralizing agents that are compatible with chemical spilled.
- Prevent spilled chemicals from going down drains to avoid affecting the environment.
- Dispose of cleanup materials as chemical hazardous waste; small volumes (<100ml) of dilute acids and bases may be neutralized (pH 6-8) and sewered.
- Call EHS for hazardous waste pickup or for guidance on cleanup or air monitoring.

Simple spills - *liquid*

- alert people in area
- wear protective equipment
- contain by diking with appropriate absorbent
- if flammable, remove ignition sources (burners, motors, anything that could cause a spark); use plastic or nonmetallic cleanup equipment
- absorb or neutralize with appropriate agent working from outside edges inward; sorbents do not remove toxic or flammable hazards; neutralization can produce heat causing boiling and splattering
 - acid — use sodium bicarbonate or acid spill kit
 - base — use sodium bisulfate, citric acid, or base spill kit
 - formaldehyde — absorb or use polymerizer

Simple spills - *dry*

- if not water reactive, dampen to prevent airborne dust
- control water reactive dust with sweeping compound
- carefully brush solids into a dust pan or container
- keep dust generation down to prevent creating inhalation hazard

Compressed gas leak - *simple*

Presents no or only minimal inhalation or fire hazard.

- remove ignition sources
- restrict access
- place in or next to fume hood if possible; tighten fittings
- locate leak with soapy water (at below freezing temperatures use 50% glycerine solution)
- if cylinder still leaks, contact supplier
- notify your PI/supervisor

Compressed gas leak - *major*

Large or uncontrollable leak or fire hazard, involves acutely toxic gas, and/or more than minimal personal risk.

- alert others to evacuate
- call 911
- turn off ignition sources
- leave fume hoods running; ventilate the affected area prior to leaving the area (only if it can be done safely and only to the outside)
- evacuate; assemble in a remote location; account for people
- provide information to emergency responders

Mercury

Large or heated spills can be an inhalation hazard

- isolate area to prevent tracking
- wear gloves and shoe covers (if on floor)
- consolidate and collect droplets using scraper, cardboard, wet paper towel, aspirator bulb, tape or special sponge (can be purchased from Biochemistry Stores)
- place all waste in sealed container; contact EHS for hazardous waste pickup

Major spills

Evacuate, call 911, and wait for responders.

LAB RESPONSE PLAN

Lab/Room number: _____

Safety Data Sheets (SDS) Access: [MSDSOnline](#) or 888-362-7416

Spill Kit

Location: _____

Maintained by: _____

Spills that require special handling:

Call Lists

Name: _____

Daytime phone number: _____

After-hours phone number: _____

Name: _____

Daytime phone number: _____

After-hours phone number: _____