

Laboratory Emergencies

Dial 911 to request emergency assistance (fire, police or ambulance).

In all emergencies and accidents, the first consideration is your safety and the safety of those around you.

Preparation for a Hazardous Materials Incident

Laboratory spills - whether chemical, biological or radiological - typically involve small amounts of hazardous materials that can be safely cleaned up by laboratory personnel who are:

- Knowledgeable about the hazardous materials used in the laboratory – (first review the [SDS](#) and other resources)
- Knowledgeable about conditions or laboratory operations which may complicate clean up – coordinate activities with other lab members...use the buddy system for hazardous operations
- Have been trained in proper response techniques – be prepared by following the steps below. Do not attempt any experiment or emergency response for which you are not trained.

In order to be prepared for an emergency, know the hazards of each compound you work with. Assess the risks before using any chemical and have a laboratory emergency plan, including a spill response plan, for all procedures with hazardous materials on file and posted in a conspicuous area for employees and emergency responders. Consider the following criteria before working with any hazardous agent:

- Toxicity, reactivity and flammability of the compound.
- The amounts involved.
- The expected duration of your exposure to the compound.
- Potential routes of entry for the material (i.e. inhalation, ingestion, injection, skin contact).
- Make sure that spill response equipment is available before starting an experiment
- Make sure that all personnel understand the hazards associated with lab protocols and emergency response procedures.
- Write Spill Response Procedures for toxic or extremely hazardous materials and experiments including emergency contact information, protective clothing, safety equipment, cleanup materials, evacuation zones, location of fire extinguishers, spill kits (contents and procedures), waste disposal containers and first aid procedures.

FOR LARGE SPILLS WHICH REQUIRE ASSISTANCE, CALL EH&S AT 644-6895 (during normal working hours) or 911, AS APPROPRIATE.

Laboratory Fire or Explosion

Fires are the most common types of laboratory accidents. All lab workers should be trained to respond to a laboratory fire and to be able to evacuate personnel and call for emergency assistance. All laboratory workers should know the locations of the fire alarm pull station, fire extinguishers, safety shower, telephone and emergency contact phone numbers.

In the event of a fire or explosion that cannot be safely extinguished with a fire extinguisher* or by smothering the fire:

- Evacuate the fire area.

- Notify occupants nearby.
- Close the door to the fire area.
- Activate the building fire alarm system at the nearest fire pull station (by exit doors).
- Dial 911 and report exact location of fire.
- Evacuate and stay clear of building.
- When emergency response personnel arrive, tell them what hazardous materials are present in the laboratory.

** Departmental protocols may require faculty, staff and students to be trained to use a fire extinguisher. There is no requirement to use a fire extinguisher in the event of a fire. Consult with your administrator or EH&S for additional information regarding departmental procedures.*

If safe to do so, respond to a small fire as follows:

- Utilize a fire extinguisher only if you are trained to operate it and you can position yourself between the fire and the exit door to avoid being trapped.
- Put out fires in small vessels by covering the vessel loosely. NEVER pick up a container of burning material.
- Notify coworkers so that they may assist you.
- In the event of a more serious fire, evacuate the laboratory and activate the nearest fire alarm. When emergency personnel arrive, tell them what hazardous substances are in the laboratory.
- If a person's clothing catches on fire, douse the fire with water by directing the person to a nearby safety shower or drench hose. Alternatively, drop-and-roll to smother the fire. Utilize safety blankets only as a last resort as they often contain the heat against the individual's skin and create a "chimney" effect by which the flames are directed toward the head.
- For a small electrical fire, de-energize the equipment and put out the fire with a regular (ABC) fire extinguisher.
- Report even small fires to a supervisor and EH&S by calling 644-6895.

Accidents and Injuries

Emergency Medical Care

A lab worker who has sustained a work-related injury that requires emergency treatment should go directly to the hospital emergency room. A supervisor or colleague may summon assistance by calling 911. **If the lab worker is an employee** (faculty, staff, graduate student, OPS employee or registered volunteer), the employee's supervisor shall report the accident to AmeriSys (800)455-2079. The Florida State University "[Accident Investigation Report](#)" form must be completed and forwarded to EH&S (lhotchkiss@fsu.edu) within 48 hours. **If the lab worker is a student**, then his/her personal health insurance will be used instead of AmeriSys; an "[FSU Incident Report](#)" shall be completed and submitted to EH&S (lhotchkiss@fsu.edu) within 48 hours.

Non-emergency Medical Care

A lab worker who is an employee (faculty, staff, graduate student, or registered volunteer) that sustains a work related-injury requiring non-emergency medical treatment, he/she shall notify his/her supervisor or other designated employee who will call AmeriSys at (800) 455-2079 to report the claim. AmeriSys

will instruct the employee where to go for medical treatment. The supervisor shall complete the Florida State University "[Accident Investigation Report](#)" Form and submit it to EH&S (lhotchkiss@fsu.edu) within 48 hours. If the labworker is a student, then his/her personal health insurance will be used instead of AmeriSys. An [FSU Incident Report](#) shall be completed and submitted to EH&S (lhotchkiss@fsu.edu) within 48 hours.

Accident with no injuries

A lab worker who is an employee (faculty, staff, graduate student, or registered volunteer) that sustains a work-related injury wherein no medical treatment is needed shall immediately notify his/her supervisor. The supervisor shall complete a "[Notice of Injury Form](#)" and a Florida State University "[Accident Investigation Report](#)" Form and submit it to EH&S (lhotchkiss@fsu.edu) within 48 hours. This information will be needed at a later date if the employee develops symptoms that require medical treatment. If the accident involves a student the supervisor will fill out an "[Incident Report](#)" and submit it to EH&S (lhotchkiss@fsu.edu) within 48 hours..

All Chemical, Biological or Radioactive Materials Exposures

Medical personnel should be given the following information:

- Identity of chemical, biological or radioactive material.
- Conditions under which exposures occurred.
- Signs and symptoms of exposure.
- What measures have been taken to mitigate the exposure.
- Whenever possible, an [SDS](#) should be provided.

Additional Information and Resources

- Printable [Lab Accident Flowchart](#) for posting
- Florida Poison Information Center: 1-800-222-1222

Laboratory Power Outages or Equipment Failure

It is best to plan for this type of event before it occurs. Risk assessments should be performed for each experiment, laboratory, and research building to determine what critical facilities or equipment may be impacted by the loss of power or failure of critical support equipment. These assessments can be performed quickly and informally when the perceived level of risk and likelihood of an occurrence are low. If a negative outcome is more likely or the consequence severity is high, the risk assessment should be formally documented and thoroughly reviewed by knowledgeable professionals.

Efforts to mitigate negative outcomes should be addressed through engineering controls whenever practical, especially for critical areas of concern. Mitigating applications fitting this category may include: automated back-up power systems, protective interlocks, the use of redundancy, etc. Areas of concern with less serious consequences may be addressed through administrative methods such as: written policy, user training, or informative posting. All facility users should be fully aware of the controls utilized for their areas and be able to ensure they are quickly and effectively implemented during emergencies.

If specific protocols have not been established dictating other more specific actions be taken, perform the following general actions to the greatest extent practical:

- Always consider safety first, never place yourself or anyone else in danger!
- Stop all potentially hazardous operations and/or stabilize their condition.
- Secure or cover any hazardous materials to prevent inadvertent exposure or access by others.
- If it is necessary to leave hazardous materials or areas with dangerous conditions unattended, post these locations and isolate them to sufficiently alert others to their presence.
- Secure containment equipment such as biological safety cabinets and fume hoods by closing their sashes until power and functionality is restored.
- Wait awhile after conditions are normalized to allow time for clearance of any airborne contaminants that may have built up. As a general rule, allow containment equipment to ventilate for several minutes or the entire laboratory area to purge for 30 minutes before resuming operations.
- Ensure that equipment is manually switched off that may be damaged or that you do not want to cycle back on after a power outage.
- Minimize opening and closing of refrigerators and freezers during extended power outages.

Do not assume that all of the equipment within the laboratory is on back-up power from emergency generators or battery supplies, check this before an event occurs. If you have loads that do not need to be on emergency power, remove them. If you need to add critical laboratory equipment loads to the emergency circuit during power outages, do so carefully and check with Facilities first whenever possible (644-2424).

[Biological Spills, Contamination, Potential Infection](#)

[Chemical Emergencies, Exposures, and Spills](#)

[Radiation Exposure](#)

[Radiological Spills](#)

References:

Florida Poison Information Center: 1-800-222-1222