

## *Laboratory Safety*

### *Incident specific review*

Laboratory instructors regularly evaluate and assess laboratory hazards and potential risks. By reviewing Standard Operating Procedures (SOPs), safety materials and laboratory postings, instructors can better recognize the hazards and determine the appropriate actions required. All Laboratory emergencies and events where the fire extinguisher is discharged are documented on the Laboratory Safety Report Form. The completed forms are reviewed regularly and the lessons learned are discussed.

1. In the event of a fire:
  - a. Determine the nature and severity of the fire.
  - b. If it is a small bench-top fire, remove the source of ignition and use watch glass or wet towels to smother the fire.
  - c. **If clothing has caught on fire, then Stop-Drop and roll. Smother all flames.**
  - d. If the determination is that a fire extinguisher can easily put out the fire, then PASS-pull, aim, squeeze and sweep.
  - e. If it is a large spreading fire, pull the fire alarm and close off the entrance to the area. Do not attempt to fight the fire by yourself.
  - f. Inform others and evacuate the building.
2. In the event of a fire alarm OR building evacuation:
  - a. When the alarm sounds, remain calm and give instructions to proceed to a specific stairwell or doorway.
  - b. Turn off all Bunsen burners, leave the lab and close the doors.
  - c. Your students should know where to meet in the event of a building evacuation.
  - d. Proceed to the designated area away from the building. Be prepared to take roll.
  - e. Do not enter the building until the building is cleared by security.
3. In the event of a small chemical spill (laboratory scale, typically less than one-liter):
  - a. Alert people and keep them away from the spill area
  - b. Help anyone who may have been contaminated, flush contaminated skin or eyes for 15 minutes and call for medical assistance (5666 from a campus phone)
  - c. Determine the nature of the spill and check the Material Safety Data Sheet (MSDS), if necessary, and clean up according to MSDS instructions.
  - d. Wear protective equipment, including respirators, safety goggles and gloves. Proceed to clean up the spill using the appropriate materials
  - e. Neutralize acids with sodium bicarbonate and bases with citric acid. If spilled material is flammable, warn lab personnel and extinguish flames and turn off electrical equipment in the spill area. After clean up, all materials, including absorbents, must be disposed of according to the MSDS. If hazardous --double bagged, labeled and disposed of as hazardous waste.

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4. In the event of a large chemical spill (example: container rupture, uncontrolled release of a hazardous chemical into the work environment):
  - a. Alert people in immediate area of the spill. Keep people away from spill area.
  - b. Call the University emergency number 5666 and inform the Department Chair.
5. In the event of a chemical splash on clothing or skin
  - a. Remove contaminated clothing and flush area with water.
  - b. Rely on the assistance of a fellow student or other faculty member if necessary.
6. In the event of a chemical splash in the eye
  - a. Immediately flush eye for 15 minutes, holding eyelids open, to remove contaminants.
  - b. Call 5666 for emergency medical services
7. In the event of a mercury thermometer breaking (mercury spill)
  - a. Alert people in immediate area of the spill and keep people away from spill area.
  - b. Contain the mercury spill to as small of an area as possible and prevent from spreading.
  - c. Work from the outside of the spill area to the center of the spill area. Push the mercury beads together with a 3 X 5 index card or stiff paper to form larger droplets.
  - d. Use a vacuum set up to collect the mercury and inspect the area thoroughly when clean up is complete. Mercury vapor monitoring supplies can be made available.
8. In the event of a broken glass accident
  - a. Do not place broken glass in the regular trash can.
  - b. Carefully clean up broken glass and dispose of it in the broken glass container. Use caution to prevent any cuts or puncture wounds.
  - c. Inspect the area carefully.
9. In the event of a minor cut or burn:
  - a. Band-aids and first aid are available
  - b. For a thermal burn-- if the skin is unbroken, submerge in water for 15 minutes. Do not break any blisters. Report to infirmary.
  - c. If a cut is not severe, clean with soap and water, apply a sterile dressing. Report to infirmary.
10. In the event of a major cut or burn
  - a. If bleeding is profuse, keep victim lying down
  - b. Elevate hand or arm wounds.
  - c. Get additional help and call 5666.
11. In the event that a student isn't feeling well:
  - a. Remove the student from the lab to a well ventilated area.
  - b. Assess the circumstance and explain the alternatives.
  - c. Call 5666 if it is a medical emergency or have the student escorted to the infirmary.