

## LABORATORY SAFETY GUIDELINE

### Safety Program Elements

1. Follow your written health, safety and environmental affairs (HS&E) policy statement.
2. Organize a departmental HS&E committee of employees and management that will meet regularly to discuss HS&E issues.
3. Attend an HS&E orientation for all new employees.
4. Encourage peers to care about their health and safety and that of others.
5. Get involved in your safety program!
6. Make safety part of your day-to-day job.
7. Read your lab safety manual.
8. Be prepared for unannounced laboratory inspections to identify and correct hazardous conditions and unsafe practices.



9. Make learning how to be healthier, safer, and more environmentally friendly an integral and important part of education, your work, and your life.
10. Participate in regular departmental safety meetings for all employees to discuss the results of inspections and aspects of laboratory safety.
11. Before conducting experiments with hazards or potential hazards, ask yourself these questions:
  - What are the hazards?
  - What regulatory standards apply to these hazards?
  - What are the prudent practices, protective facilities and personal protective equipment necessary to minimize the risk of exposure to the hazards?
12. Don't allow experiments to run unattended unless they are fail-safe.
13. Extend the safety program beyond the laboratory to the automobile and the home.



14. Allocate a portion of the departmental budget to safety.
15. Maintain a centrally located departmental safety library. See [www.fishersafety.com/lab](http://www.fishersafety.com/lab) for a list of resources.

16. Develop specific work practices for individual experiments, such as those that should be conducted only in a ventilated hood or involve particularly hazardous materials. When possible, most hazardous experiments should be done in a hood.

17. Every pre-experiment discussion must include consideration of the health and safety aspects.

### Emergency Planning

1. Develop plans and participate in drills for dealing with emergencies such as fire, explosion, poisoning, chemical spill or vapor release, electric shock, bleeding and personal contamination.
2. Display the phone numbers of the fire department, police department, and local ambulance either on or immediately next to every phone.
3. Have an appropriate supply of first aid equipment on hand and instruction on its proper use.



### Prudent Practices

1. Never work alone in any laboratory and always obtain prior approval of a supervisor.
2. Never smoke, eat, or drink in the laboratory.
3. Do not store food in chemical refrigerators.
4. Practice good housekeeping in all work areas.
5. Use warning signs to designate particular hazards.
6. Use appropriate eye protection at all times in laboratories and areas where chemicals or biologicals are transported.
7. Develop a system for the legal, safe and ecologically acceptable disposal of chemical wastes.
8. All incidents must be reported, evaluated by the departmental safety committee, and discussed at departmental safety meetings.



### Protective Facilities

1. Have adequate supplies of personal protective equipment on hand, including safety glasses, goggles, faceshields, gloves, lab coats, and benchtop shields.
2. Ensure fire extinguishers, safety showers, eyewash fountains, first aid kits, fire blankets and fume hoods are present in each laboratory and test or check monthly. Activate showers and eyewashes weekly.
3. Ensure guards are on all vacuum pumps and secure all compressed gas cylinders.
4. Remove all electrical connections from inside chemical refrigerators and use magnetic closures.
5. Utilize grounded plugs on all electrical equipment and install ground fault interrupters (GFI's) where appropriate.



### Chemical Safety & Storage

1. Maintain a chemical inventory to avoid purchasing unnecessary quantities of chemicals.
2. Label all chemicals to show the name of the material, the nature and degree of hazard, the appropriate precautions, and the name of the person responsible for the container.
3. Develop a program for dating stored chemicals and for recertifying or discarding them after predetermined maximum periods of storage.
4. Provide secure, adequately spaced, well-ventilated storage of chemicals.
5. Store only minimum amounts of flammable liquids in each laboratory.
6. Store acids and bases separately. Store oxidizer acids separately. Store fuels and oxidizers separately.
7. Use fireproof cabinets for storage of flammable chemicals.

