

Safety Note #127

GENERAL LABORATORY SAFETY



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A basic understanding of the prevention of laboratory accidents is essential for the safety of employees in laboratories. Many hazards potentially exist in laboratories, including fires, hazardous gases and fumes, explosions and chemical spills. A laboratory is a safe place to work if you and others are careful and follow safe practices. Everyone working in a laboratory should assume responsibility for the safety of themselves and their co-workers. **Safety videos E-048 (OSHA Laboratory Standard) and E-029 (Safety First in campus Labs) are also available from the ANR Environmental Health & Safety Library at <http://safety.ucanr.org>.**

Pre-Laboratory Activities

- Employees must be familiar with safety information including the Injury and Illness Prevention Program (IIPP), Building Evacuation Plan, and Chemical Hygiene Plan (CHP) for chemical laboratories.
- Employees must be trained to use and know the location of emergency equipment including, spill equipment, fire extinguishers, emergency eyewash/shower units, first aid kits and fire alarms.
- Employees must be trained to use all personal protective equipment (PPE) including eye/face protection, protective gloves, protective clothing, respiratory protection and any other PPE required in the laboratory. All required PPE must be provided to the laboratory employees by the employer.
- Employees must be trained about proper chemical storage and compatibility and use, including waste and container labeling, and Safety Data Sheets (SDS). Training must also include the hazards of flammable, corrosive and oxidizing chemicals, carcinogens, water reactive chemicals, and peroxide forming chemicals.
- Employees must be trained in the proper use of lab equipment including fume hoods, ultraviolet sources, compressed gas cylinders, ovens, centrifuges, and all other equipment which has a potential for injury.
- Employees who will be working with bio-hazardous materials, radiation, lasers, and x-ray equipment must be properly trained and authorized. Safety programs must be implemented prior to such activities being performed in the laboratory. Contact EH&S to assure appropriate protocols, permits, or licenses are in place prior to starting this type of work.

Operating Precautions

- Dress properly during laboratory activities. Long hair, jewelry, and loose or baggy clothing can be a hazard. Shoes must completely cover the foot. No open toed shoes are allowed in the laboratory.
- Report any accident (spill, breakage, etc.) or injury (cut, burn, etc.) to the Principal Investigator or laboratory supervisor immediately, no matter how trivial it may appear.
- Food and drink must not be consumed in areas where hazardous chemicals are present. A separate "clean area" may be established for eating and drinking. Refrigerators and microwave ovens must be labeled either "Food Only", or "Lab Use Only". Only explosion proof refrigerators and freezers can be used for flammable or explosive chemicals. Laboratory sinks can not be used for washing of both lab glassware and food utensils.
- Practice good housekeeping. Keep work areas uncluttered and walkways and exits clear. Do not obstruct emergency equipment including fire extinguishers, eyewash/shower units, and fire alarms.
- Follow all Standard Operating Procedures (SOPs) and recommended work practices.
- Perform activities in a sanitary manner. Do not eat or drink while working. Wash hands after performing work. Clean, rinse and dry all work surfaces and equipment, including glassware.
- All electrical systems must be installed according to building codes and Cal-OSHA regulations. Extension cords are not to be used as substitutes for permanent wiring. Unplug hot plates before leaving the laboratory.
- If you are in doubt about directions for an experiment, or about use or disposal of materials, ask your supervisor first before acting.