

Safety Note #186

GENERAL CHEMICAL STORAGE



At many ANR facilities, various chemicals are stored, and used on a daily basis. Chemical storage areas are located in laboratories, shops, pesticide handling areas, and other locations. Many of the chemicals stored are hazardous, and the types and amounts can vary greatly. Unfortunately, chemical accidents involving the use and storage of chemicals are far too frequent in workplaces, resulting in fires, explosions, spills, toxic vapors, burns and environmental damage. California Code of Regulations, Title 8, Section 5164 and Title 19, Sections 2620 – 2734 have guidelines for the storage of hazardous substances.

Please follow these guidelines for the safe storage of chemicals:

- Hazardous chemicals must be stored in well-ventilated areas separate from offices or other workspaces.
- Use only approved storage cabinets, rooms or refrigerators. Label storage areas as to the hazards being stored within. Example (Flammables/Acids/Pesticides/Oxidizers).
- Chemical storage areas should be neat and orderly. Keep aisles, hallways, doorways, and exits clear of obstructions.
- Keep storage areas well lit, ventilated, and at a consistent, cool temperature.
- Eliminate ignition sources such as open flames, heat sources or direct sunlight.
- Have fire extinguishers and chemical spill kits available at the storage area. Emergency eyewash and shower units must be available where required.
- Shelves must be level, stable, and secured to the wall or foundation for seismic safety.
- Where containers may fall and be a hazard, a restraining method such as a one inch lip at the front of the shelf, elastic cords or other devices must be installed.
- Secondary containment, such as plastic bins or wash tubs, should be used for liquid or solid materials collect and contain incidental spills or leaks from containers.
- Separate all chemicals according to compatible groups. Incompatible materials must be stored in separate areas where they cannot mix.
- Class 1 flammable liquids stored in quantities of 10 to 60 gallons must be kept in an approved flammable liquid storage cabinet. The flammable cabinet doors must be self-closing.
- Quantities greater 60 gallons of flammable liquid must be stored in an approved storage room.
- Refrigerators used for storing chemicals must be labeled for chemical use only. No food is allowed.
- Flammable materials that require refrigeration must only be stored in an approved, explosion-proof refrigerator or freezer.
- All chemical containers must be labeled with chemical name, type, and hazard warning. In shared spaces, the name of the person responsible for the materials (i.e. Principal Investigator or Advisor) and date received should also be labeled on the container.
- All chemical containers must have lids and be closed when not in use. Damaged containers must be replaced.
- Ensure manufacturers' expiration dates are followed. Dispose of all outdated, hardened, evaporated, or degraded materials. Chemicals that are no longer needed should also be disposed. See Safety Note #56 (<http://safety.ucanr.edu/files/1450.pdf>)
- Do not overcrowd shelves. Chemical containers must not be hang over shelves.
- Store highly toxic and controlled materials in a locked, dedicated poison cabinet.
- Appropriate PPE must be provided at chemical storage areas where containers are opened.
- An annual inventory and inspection of chemical storage areas must be conducted, and Safety Data Sheets made available for each type of chemical. See ANR Hazard Communication Program (<http://safety.ucanr.edu/files/2858.pdf>)
- Quantities of hazardous materials in excess of 55 gallons of liquid, 500 pounds of solid, 200 cubic feet of compressed gasses, or any amount of extremely hazardous materials must be reported to the local Certified Unified Program Agency (CUPA). Contact ANR EH&S for assistance (ehs@ucanr.edu).