

GENERAL WRITTEN SOP -- Flammables and Combustibles

The OSHA Laboratory Standard explicitly requires "standard operating procedures relevant to safety and health considerations to be followed when laboratory work involves the use of hazardous chemicals." If the general SOP in this section do not fulfill this requirement, you must amend and append in some manner so as to comply.

Special Precautions for Working with Flammables and Combustibles:

Flammable/combustible materials are materials which under standard conditions can generate sufficient vapor to cause a fire in the presence of an ignition source. Flammable materials can generate sufficient vapors at temperatures below 100°F (38°C); combustibles, at temperatures at or above 100°F (38°C) and below 140°F (60°C). The vapors of these materials are invisible, and a vapor trail to an ignition source away from the immediate area can result in a flashback. Flammables are more hazardous at elevated temperatures due to more rapid vaporization. In addition, flammable and combustible materials react with oxidizers which can result in a fire. The following special precautions will be observed:

1. Ignition sources such as open flames, smoking materials, hot surfaces, sparks from welding or cutting, operation of electrical equipment, and static electricity will be eliminated. Conspicuous "No Smoking" signs will be posted in areas where flammable materials are used or stored. (All campus buildings are smoke free).
2. The quantity of flammables kept in the work area (and on shelves) will be minimized.
3. Materials will be stored in approved flammable liquid containers (safety cans) if there are no concerns about purity and flammable storage cabinets, or in a special storage room designed for that purpose. The same materials will be stored away from oxidizers.
4. Flammable liquids stored in glass containers shall not exceed 1 quart. Exception: For conditions where chemical purity must be protected, flammable liquids stored in glass containers shall not exceed 1 gallon.
5. Refrigerators and freezers used for the storage of flammable or combustible liquids will have no internal sources of ignition (lab-safe) and will be posted with appropriate signage available through the Laboratory Safety Manager and EHS (see "[Chemical Storage](#)").
6. Proper bonding and grounding when it is required, such as when transferring or dispensing a flammable liquid from a large container or drum, will be ensured. The process of [bonding and grounding](#) can be defined as providing an electrically conductive pathway between a dispensing container, a receiving container and an earth ground. This pathway helps eliminate the buildup of static electricity by allowing it to safely dissipate into the ground. Bonding and grounding will be checked regularly, if applicable. Additional training will be conducted if bonding and grounding is necessary.
7. An appropriate fire control system or fire extinguishers are available, unobstructed and ready for use.