

FLAMMABLE LIQUIDS STANDARD OPERATING PROCEDURE

HAZARDOUS CHEMICALS/CLASS OF HAZARDOUS CHEMICALS

- Flammable liquids are chemicals that have a flash point below 100°F (38.7° C) and a vapor pressure that does not exceed 40 psig at 100°F.

HAZARD DESCRIPTION

- Contact with flame or hot surfaces will result in a fire.

PROTECTION PROCESS

- Good laboratory technique
- Appropriate shielding through use of personal protective equipment
- Experiments involving greater than 500 mL of flammable liquids should be carried out in a fume hood.

PERSONAL PROTECTIVE EQUIPMENT

- Eye protection in the form of safety glasses must be worn at all times when handling flammable liquids. Ordinary (street) prescription glasses do not provide adequate protection.
- Gloves should be worn when handling flammable liquids. Disposable latex or nitrile gloves provide adequate protection against accidental hand contact with small quantities of most laboratory chemicals. Lab workers should contact OEHS for advice on chemical resistant glove selection when direct or prolonged contact with hazardous chemicals is anticipated.
- Lab coats, closed toed shoes and long sleeved clothing should be worn when handling flammable liquids. Additional protective clothing should be worn if the possibility of skin contact is likely.
- Safety shielding is required any time there is a risk of explosion, splash hazard or a highly exothermic reaction. All manipulations of flammable liquids which pose this risk should occur in a fume hood with the sash in the lowest feasible position. Safety shielding is required any time there is a risk of explosion, splash hazard or a highly exothermic reaction. Portable shields, which provide protection to all laboratory occupants, are acceptable.

ENGINEERING/VENTILATION CONTROLS

- A safety shower and eyewash must be available and accessible when working with corrosive liquids. Bottle-type eyewash stations are not acceptable.
- A fume hood should be used when handling volumes of flammable liquids larger than 500 mL.
- Manipulation of flammable liquids outside of a fume hood may require special ventilation controls in order to minimize exposure to the material. Fume hoods provide the best protection against exposure to flammable liquids in the laboratory and are the preferred ventilation control device. Always attempt to handle large quantities of flammable liquids in a fume hood. If your research does not permit the handling of large quantities of flammable liquids in your fume hood, contact the Office of Environmental Health and Safety to review the adequacy of all special ventilation.

SPECIAL HANDLING PROCEDURES AND STORAGE REQUIREMENTS

- The storage of flammable and combustible liquids in a laboratory, shop or building area must be kept to the minimum needed for research and/or operations. If more than 5 gallons of flammables are present outside of safety cans per 100 square feet of area, a flammable-liquids storage cabinet is required. Flammable-liquids storage cabinets are not intended for the storage of highly toxic materials, acids, bases, compressed gases or pyrolytic chemicals.
- All flammable liquids must be clearly labelled with the correct chemical name. Handwritten labels are acceptable; chemical formulas and structural formulas are not acceptable.
- Where feasible (if the quality of the solvent will not be adversely affected) transfer flammable liquids from glass bottles into metal safety cans.
- Mechanical vacuum pumps must be protected using cold traps and, where appropriate, filtered to prevent particulate release. The exhaust for the pumps must be vented into an exhaust hood. Vacuum pumps should be rated for use with flammable liquids.

SPILL AND ACCIDENT PROCEDURES

- Anticipate spills by having the appropriate clean up equipment on hand. The appropriate clean up supplies can be determined by consulting the material safety data sheet. This should occur prior to the use of any flammable liquids. Spill supplies for flammable liquids are designed to control the liquid portion of the spill and minimize the production of flammable vapors. Never use paper towels on large spills of flammable liquids because it exacerbates vapor production.
- In the event of a spill all personnel in the area should be alerted. Turn off all sources of ignition. Do not attempt to handle a large spill of flammable liquids. Vacate the laboratory immediately and call for assistance: Office of Environmental Health & Safety 292-1284 or 911 (This is a 24 hour service).
- Remain on the scene, but at a safe distance, to receive and direct safety personnel when they arrive.

WASTE DISPOSAL

- Collect waste in an approved safety container and record date, chemical, and amount.
- Call Office of Environmental health & Safety (292-1284) for pickup.

SPECIAL APPROVAL REQUIRED

- No

DECONTAMINATION

- Wash hands and arms with soap and water immediately following any skin contact with flammable liquids.

DESIGNATED AREA

- No