STANDARD OPERATING PROCEDURE
for
HALOGENATED SOLVENTS (selected)

Location(s): ___________________________________________________

Chemical(s): halogenated solvents:  dichloromethane (methylene chloride), chloroform (including mixtures of chloroform with phenol and/or other materials), carbon tetrachloride

Specific Hazards: Suspect cancer hazard (contains material which can cause cancer in animals). Risk of cancer depends on duration and level of contact. Causes respiratory tract, skin and eye irritation. May cause blood disorders. May cause convulsions. May affect blood cells. May affect the central nervous system. May cause adverse reproductive effects. May damage the kidneys, the liver, and the lungs.

1. Purchasing: All purchases of this material must have written approval from the Principal Investigator or ______________________ before ordering. The user is responsible to ensure that a current Material Safety Data Sheet (MSDS) is obtained unless a current one is already available within the laboratory. Quantities of this material will be limited to __________________, or the smallest amount necessary to complete the experiment.

2. Storage: Materials will be stored according to compatibility and label recommendations in a designated area: _________________________________. Storage areas will be regularly inspected by _________________________________ to ensure safety. Periodic inventory reductions will be scheduled.

3. Authorized personnel: Use of this material requires prior written approval from the PI or ________________________________, Title: ____________________. Use will be limited to the following personnel (check all that apply):

   Principal Investigator ____ Graduate students____
   Technical staff ____ Post doctoral employees____ Undergraduates ____
   Other (describe) ________________________________

4. Training requirements: The user must demonstrate competency and familiarity regarding the safe handling and use of this material prior to purchase. Training should include the following:

   ___Review of current MSDS   ___Special training provided by the department/supervisor
   ___Review of the OSHA Lab Standard   ___Review of the departmental safety manual
   ___Review of the Chemical Hygiene Plan   ___Safety meetings and seminars
Laboratory safety training (EH&S)

5. Use location: Materials shall be used only in the following designated areas in room _____. Check all that apply:
   demarcated area in lab (describe)________________________________________
   fume hood ___ X__ glove box _____ other (describe) _______________________

6. Personal protective equipment: All personnel are required to wear the following personal protective equipment whenever handling this material (check all that apply):
   Safety goggles _____ Chemical safety goggles ___ X__ Face shield _____
   Gloves (type/use):
   Incidental Contact: double gloves with heavier weight (8mil) nitrile gloves.
   Change the outer glove immediately whenever it becomes contaminated.
   Extended Contact: viton gloves (0.23-0.33mm) or polyvinyl acetate (PVA) only.
   Lab coat ___ X__ Rubber apron _____ Tyvek clothing _____
   Respirator (type) ______________  Other (describe) ___________________

7. Waste disposal: The authorized person using this material is responsible for the safe collection, preparation and proper disposal of waste unless otherwise stated below. Waste shall be disposed of as soon as possible and in accordance with all laboratory and University procedures.
   Specific instructions: These materials must always be handled as hazardous wastes. The evaporation of hazardous waste as a means of disposal is not allowed!

8. Decontamination: Specific instructions: Wash items/surfaces with light contamination with soap or detergent in water.

9. Exposures: Emergency procedures to be followed (from MSDS):

   Skin contact:
   Symptoms: Prolonged skin contact may result in burns & absorption. Prolonged skin contact may cause dermatitis.
   First Aid: Wash skin with soap & water. Call a physician.

   Eye contact:
   Symptoms: Irritation, defatting, spasms of the lid.
   First Aid: immediately flush with water for at least 15 minutes. Hold eyelids open. Call a physician.

   Ingestion:
   Symptoms: burning of the digestive tract, nausea, vomiting, diarrhea. Aspiration hazard, narcotic, toxic to the liver and kidneys. May cause lung damage if vomited after swallowing.
First Aid: do not induce vomiting except on advice of competent medical personnel. If conscious, drink water. Start gastric lavage and ventilation immediately. Do not give epinephrine. Treat symptomatically/supportively. Call a physician.


Med Cond Aggravated By Exp: persons with pre-existing skin disorders or eye problems, impaired liver, kidney, cardiovascular or respiratory function, or conjunctivitis may be more susceptible to the effects of the substance.

10. Spills: Spill cleanup materials to be used, location of materials, PPE to be used, disposal of cleanup materials, etc. Please be as complete as possible:
Evacuate area. For small spills wear nitrile gloves and splash goggles and absorb spill of material with a spill pad, absorbent material (ground up corn cobs/slickwick) or lab wipes. (Bag spill materials in plastic bag for waste pickup.) Ventilate area and wash spill site with detergent and water. For spills over 500mL call 911 for EH&S Emergency Spill Response.

11. Phone numbers:
Cornell Campus Police 911 (accidents, spills)
Environmental Health and Safety 5-8200
Gannett Health Center 5-5155

12. Other: Special precautions, incompatible/reactive materials, usable shelf life, etc. Please be as specific as possible:
Caution! Phosgene may form in the head space in chloroform containers. Always open in a hood.

Prepared by: ________________________________

Date: ____________

Reviewed/Revised: ________________