STANDARD OPERATING PROCEDURE
for
ALIPHATIC HYDROCARBON SOLVENTS (selected)

Location(s): ___________________________________________________

Chemical(s): aliphatic hydrocarbon solvents: hexane, pentane, heptane, octane, petroleum ether (naphtha)

Specific Hazards: Causes respiratory tract, skin, and eye irritation. May affect central nervous system (depression, intoxication). May damage nervous system. Flammable liquid and vapor. Vapor may cause a flash fire.

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

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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:* 8mil nitrile gloves or double 8mil nitrile glove
  - *Extended Contact:* Heavier (35mil) weight nitrile or thicker gloves, Viton or PVA
- Lab coat ___X__ Rubber apron _____ Tyvek clothing _____
- Respirator (type) ____________ Other (describe) In an atmosphere enriched with an aliphatic hydrocarbon wear contact lenses only with splash goggles.

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: EXTREMELY FLAMMABLE. Keep all containers tightly closed. Avoid all sources of ignition when in use.

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: Irritation.
   - First Aid: Flush with large quantities of water. Remove contaminated cloth as rapidly as possible. Seek medical attention.

   Eye contact--
   - Symptoms: Irritation.
   - First Aid: Eye: Flush w/copious quantities of water. Part eyelids w/fingers to assure complete flushing. Continue for minimum of 15 minutes. Seek medical attention.

   Ingestion--
   - Symptoms: May cause gastrointestinal irritation, nausea, vomiting, headache.
First aid: Do not induce vomiting-aspiration hazard causing pulmonary edema, complications. Do not administer milk/alcohol/fatty foods. Lay down in cool quiet well ventilated area. Keep warm. Consult poison control center immediately.

Inhalation--
Symptoms: May cause vapor causes dizziness, difficulty in walking, blurred vision, burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting, lung irritation, chest pain, edema which may be fatal, chemical pneumonia, nervous system disorders.
First aid: Remove unconscious/conscious person to uncontaminated area. Unconscious give artificial resuscitation/supply oxygen. Further treatment should be symptomatic/supportive. Prompt medical attention mandatory in all cases.

Medical Condition Aggravated By Exposure: pre-existing skin and/or respiratory disorders may be aggravated by exposure to these materials. Impaired liver, kidney, or respiratory function may be aggravated by petroleum ether and other aliphatic hydrocarbon solvents.

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. Shut off all sources of ignition. For small spills wear nitrile gloves and splash goggles and absorb spill of material with a spill pad, absorbant 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:

Prepared by: ________________________________

Date: ____________

Reviewed/Revised: _________________