AMHERST COLLEGE

LIQUID NITROGEN SAFETY

Liquid Nitrogen Safety Health and Safety Precautions

Liquid Nitrogen is extremely cold (-320 F) at atmospheric pressure. Accidental contact can cause severe damage (thermal burns) to the skin. When handling or transferring Liquid Nitrogen

- Wear appropriate clothing and personal protection equipment
  - o Long sleeve shirts and/or laboratory coat with full length pants
  - o Footwear which is substantial and without openings (no sneakers or open toe shoes)
  - o Clean, dry cryogenic safe gloves, which can be removed quickly, if needed
  - o Unvented, tight fitting goggles and a full face shield

Liquid Nitrogen is an asphyxiant that will deplete the amount of oxygen within the laboratory, room or storage area.

- Rooms used for the storage and transfer of Liquid Nitrogen shall be vented through an exhaust system, terminating outside of the building.
  - o Laboratories with fume hoods, and
  - o Merrill Science Room 130 - Chemical Storage Area
  - o Merrill Science Loading Dock – with open doors

Liquid Nitrogen shall be stored in appropriate containers specifically designed for the purpose.

- Dewars and pressurized vessels specifically designed and approved for the storage of liquid nitrogen shall be used for this purpose
  - o A double walled Dewar flask with pressure vents shall be used
  - o Do not store liquid nitrogen in uncovered containers for long periods
  - o Do not use domestic vacuum flasks

Liquid Nitrogen shall be filled or transferred by trained personnel

- The transfer of Liquid Nitrogen should be performed by a minimum of 2 persons, in case of accident or other emergency.
- Minimize the possibility of spills, splashes and the escape of gases and liquids
  - o Open valves slowly to allow thermal effects on fittings and gas escape/evaporation to be controlled

Emergencies involving Liquid Nitrogen

- Accidental (uncontrolled) release of Liquid Nitrogen should initiate the following response;
  - o Evacuate the area to minimize potential risk. Activate the building Fire Alarm if complete failure of a large Dewar occurs. For Accountability reasons, identify a safe place to meet outside and away from the building
  - o Notify the Campus Police (413) 542-**2111**
    - - Identify the area/room of incident, and the number of persons injured or ill
    - - Flush thermal burns from Liquid Nitrogen with warm water for a minimum of 15 minutes
  - o Send someone to meet the Campus Police and/or the Amherst Fire Department at the entrance to the building, to expedite treatment and transportation of patient(s)

For additional information, contact the Chemical Hygiene Officer (x2736) or Environmental Health and Safety (x8189)