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## Nitrogen, Cryogenic Liquid - September 1999

### Section 1 - Name & Hazard Summary

**Material name:** Nitrogen, Cryogenic Liquid

**Manufacturer:** Badger Fire Protection Phone (804) 973-4361

### Section 2 - Ingredients

**Component:** Nitrogen, Cryogenic Liquid **Percent:** 100.0

**Other Contaminants:** None

**Exposure Limits:** No occupational exposure limits established by OSHA, ACGIH, or NIOSH.

### Section 3 - Physical Data

**Description:** Odorless, Tasteless, Colorless Liquefied Gas.

**Boiling Point:** -346° F (-210 C) **Melting Point:** -346° F (-210°C)

**Specific Gravity:** 0.8081 @ -196° C **Volatility:** 100%

**Vapor Pressure:** 760 MMHG @ -196 °C **Solubility in Water:** 1.6% @ 20° C

**Vapor Density:** 0.967

**Solvent Solubility:** Soluble in Liquid Ammonia: Slightly Soluble in Alcohol.

**Viscosity:** 0.292 CPS @ -209° C

### Section 4 - Fire and Explosion Hazard Data

**Fire and Explosion Hazard:** Negligible fire hazard when exposed to heat or flame. Cylinder may explode in heat of fire.

**Fire Fighting Media:** Extinguish using agent suitable for type of surrounding fire.

**Firefighting:** Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Stay away from ends of tanks. Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire (1990 emergency response guidebook. DOT P 5800.5, Guide Page 21).

Extinguish using agent suitable for type of surrounding fire. Cool containers with flooding quantities of water from as far a distance as possible. Do not use water on material itself.

Do not permit physical damage or overheating of containers. Contents are under pressure; containers may rupture violently and travel a considerable distance. Contact of liquefied gases with water may cause violent explosions due to rapid temperature fluctuations.

### Section 5 - Reactivity Data

**Storage and Disposal:** Observe all federal, state and local regulations when storing or disposing of this substance. For assistance, contact the District Director of the Environmental Protection Agency. Store in accordance with 29 CFR 1910.101.

Protect against physical damage. Inside storage should be in a well-ventilated area (NFPA 49. Hazardous Chemicals Data

1975). Store away from incompatible substances.

**Reactivity:** Stable under normal temperatures and pressures.

**Hazardous polymerization:** N/A

**Incompatibilities: Lithium:** May ignite in the gas.

**Magnesium:** Violent reaction with the liquid on ignition.

**Neodymium:** Vigorous Reaction. **Ozone:** Mixtures of the gases may be explosive.

**Titanium:** Will burn in nitrogen atmosphere.

## Section 6 - Health Hazard Assessment

**D.O.T. Shipping Name:** Nitrogen **Carcinogen Status:** None

**D.O.T. Hazard Class:** 49-CFR 172.101: Nonflammable gas.

**D.O.T. Packaging Requirements:** 49-CFR 173.316 and 49-CFR 173.318.

**Exceptions:** 49-CFR 173.320

**Carcinogen Status:** None

**Acute Toxicity Level:** No data available.

**Target Effects:** Simple Asphyxiant.

## Section 7 - Spill or Leak Procedures

**Occupational Spill:** Do not touch spilled material. Stop leak if you can do so without risk. Keep unnecessary people away. Isolate hazard area and deny entry. Ventilate closed spaces before entering.

## Section 8 - Special Protection Information

**Occupational Spill:** Do not touch spilled material. Stop leak if you can do so without risk. Keep unnecessary people away. Isolate hazard area and deny entry. Ventilate closed spaces before entering.

**Inhalation: Nitrogen:** Simple asphyxiant. See information on simple asphyxiants. Nitrogen inhaled under increased atmospheric pressure. (>1.5 atmospheres). May dissolve in the fat-containing brain cells, and act as an anesthetic, causing narcosis. Persons who have been exposed to increased pressure for a time and who are suddenly released from the pressure may develop decompression sickness. Repeated exposure, without complete decompression, may result in decompression sickness.

**First Aid:** Remove from exposure area. If breathing has stopped, give artificial respiration.

**Skin Contact:** No adverse effect has been reported from the gas.

**Eye Contact:** Wash immediately with large amounts of water.

**Ingestion:** Treat symptomatically and supportively. Get medical attention immediately. If vomiting occurs, keep head lower than hips to prevent aspiration.

**Ventilation:** Provide general dilution ventilation.

**Clothing:** For the gas form protective clothing not require. If contact with the liquid form is possible. Employee must wear appropriate protective clothing and equipment to prevent skin from freezing.

**Gloves:** Wear full protective, cold insulating gloves.

**Eye Protection:** For the gas form eye protection is not required but recommended. Where there is any possibility of contact with the liquid form, employee must wear splash-proof safety goggles and a face shield to prevent contact with this substance. Contact lenses should not be worn.