

Asiatic Gases Limited

MATERIAL SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

Product Name : Nitrogen (Gas) Trade Name: Nitrogen
Chemical Name: Nitrogen Synonyms : Not applicable
Formula : N, Chemical Family: Not applicable

2. HAZARDOUS INGREDIENTS

For custom mixtures of this product request a Material Safety Data Sheet for each component.

INGREDIENT GAS NUMBER: Nitrogen 7727-37-9

VOLUME PERCENTAGE : >99%

CONCENTRATION OSHA PEL ACGIH TLV – TWA : Simple asphyxiant

3. PHYSICAL AND CHEMICAL DATA

MOLECULAR WEIGHT : 28.01
SPECIFIC GRAVITY (air = 1): At 70° F (21.1° C) : 0.967
GAS DENSITY : AT boiling point and 1 atm : 4.43 lbs/ft, (7.096 kg/m)
VAPOR PRESSURE : AT 68° F (20° C) : Not applicable
SOLUBILITY IN WATER, vol / vol at 320F (0° C) and 1 atm : 0.023
PERCENT VOLATILES BY VOLUME : 100
BOILING POINT at 760 mm. Hg. : 0329.46° F (-195.8° C)
FREEZING POINT : -345.8° F (-210° C)
APPEARANCE, ODOR AND STATE : Colorless. Odorless. Tasteless
gas at normal temperature & pressure and cryogenic liquid

4. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Simple asphyxiant

EFFECTS OF A SINGLE (ACUTE) OVEREXPOSURE :

INHALATION – Asphyxiant. Effects are due to lack of oxygen. Moderate concentrations may cause headache, drowsiness, dizziness, excitation, excess sensation, vomiting and unconsciousness Lack of oxygen can kill.

SKIN CONTACT – No harm expected from vapor. Liquid may cause frostbite.

SWALLOWING – This product is a gas at normal temperature and pressure. Liquid contact may cause frostbite of lips and mouth.

EYE CONTACT – No harm expected from vapor liquid may cause frostbite.

EFFECTS OF REPEATED (CHRONIC 0° OVEREXPOSURE: No harm expected.

OTHER EFFECTS OF OVEREXPOSURE: Lack of oxygen can kill.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: The toxicology and the physical and chemical properties of nitrogen suggest that overexposure is unlikely to aggravate existing medical conditions.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD

EVALUATION: None known

CARCINOGENICITY: None currently established.

FIRST AID MEASURES

INHALATION: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult qualified person may give oxygen. Call a physician.

SKIN CONTACT: For exposure to liquid immediately warm frostbite area with warm water. In case of massive exposure. Call a physician.

SWALLOWING: This product is a gas at normal temperature and pressure.

EYE CONTACT: In case of splash contamination. Flush eyes with water for atleast 15 minutes. See a physician, preferably an ophthalmologist immediately.

NOTES TO PHYSICIAN: There is no specific antidote. This product is nearly inert. Treatment of over exposure should be directed heat t control of symptoms and the clinical condition.

5. FIRE AND EXPLOSION HAZARD

FLASH POINT (test method) : Not applicable
 AUTOIGNITION TEMPERATURE : Not applicable
 FLAMMABLE LIMITS IN AIR, % by volume : LOWER: NA UPPER: NA
 EXTINGUISHING MEDIA: Nitrogen cannot catch fire. Use media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate all personnel from danger area. Immediately deluge cylinders with warm water from maximum distance until cool. Then move them away from the area if without risk. Self – contained breathing apparatus may be required by rescue workers.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Nitrogen cannot catch fire. Heat of fire can build pressure in cylinder and cause it to rupture. No part of Cylinder should be subjected to a temperature.

HAZARDOUS COMBUSTION PRODUCTS: None known.

6. STABILITY AND REACTIVITY

STABILITY: Unstable
 INCOMPATIBILITY (materials to avoid): None known. Nitrogen is chemically inert
 HAZARDOUS DECOMPOSITION PRODUCTS: None
 HAZARDOUS POLYMERIZATION: May Occur
 CONDITIONS TO AVOID : None currently known

7. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Immediately evacuate all personnel from danger area. Nitrogen is an asphyziant. Lack of oxygen can kill. Use self-contained breathing apparatus where needed. Shut off flow if you can do so without risk. Ventilate area or move cylinder to a well – ventilated area. Test for sufficient oxygen, especially in confined spaces before allowing recently.

WASTE DISPOSAL METHOD: Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard any product, residue. Dispose container or liner in an environmentally acceptable manner in full compliance within federal state and local regulations. If necessary, call your local supplier for assistance.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION / ENGINEERING CONTROLS:

LOCAL EXHAUST - Use a local exhaust system if necessary to prevent oxygen deficiency.

MECHANICAL (general) – General exhaust ventilation may be acceptable if it can maintain an adequate supply of air.

SPECIAL – None

OTHER - None

RESPIRATORY PROTECTION: None required under normal use. However air supplied respirators are required while working in confined spaces with this product.

SKIN PROTECTION: Wear work gloves when handling cylinders.

EYE PROTECTION: Wear safety glasses when handling cylinders.

9. SPECIAL PRECAUTIONS

Extremely cold liquid and gas. Use piping and equipment adequately designed to withstand pressures to be encountered. Never work on a pressurized system. Gas can cause rapid suffocation due to oxygen deficiency. Store and use with adequate ventilation. Close valve after each use; keep closed even when empty. Prevent reverse flow. Reverse flow into cylinder may cause rupture. Use a check valve or other protective device in any line or piping from the cylinder. Never work on a pressurized system. If there is a leak, close the cylinder valve. Blow the system down in a safe and environmentally sound manner in compliance with all federal, state and local laws, then repair the leak. Never ground a compressed gas cylinder or allow it to become part of an electrical circuit.

MIXTURES: When you mix two or more gases or liquefied gases, you can create additional unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist, or other trained person when you evaluate the product.