

MATERIAL  
SAFETY  
DATA SHEET

PRODUCT NAME Nitrogen	CAS# 7727-37-9
TRADE NAME AND SYNONYMS Nitrogen; Nitrogen, Compressed	DOT I.D. NO. UN 1066
CHEMICAL NAME AND SYNONYMS Nitrogen	DOT HAZARD CLASS Division 2.2
ISSUE DATE AND REVISIONS Revised June 2007	FORMULA N <sub>2</sub>
	CHEMICAL FAMILY Inert Gas

**HEALTH HAZARD DATA**

<p><b>TIME WEIGHTED AVERAGE EXPOSURE LIMIT</b></p> <p>Nitrogen is defined as a simple asphyxiant. Oxygen levels should be maintained at greater than 18 molar percent at normal atmospheric pressure which is equivalent to a partial pressure of 135 mm Hg (ACGIH 1990-1991). OSHA 1989 does not list a TWA for nitrogen.</p>
<p><b>SYMPTOMS OF EXPOSURE</b></p> <p>Effects of exposure to high concentrations so as to displace the oxygen in the air necessary for life are headache, dizziness, labored breathing and eventual unconsciousness.</p>
<p><b>TOXICOLOGICAL PROPERTIES</b></p> <p>Nitrogen is nontoxic but the liberation of a large amount in a confined area could displace the amount of oxygen in air necessary to support life.</p> <p>Nitrogen is not listed in the IARC, NTP or by OSHA as a carcinogen or potential carcinogen.</p> <p>Persons in ill health where such illness would be aggravated by exposure to Nitrogen should not be allowed to work with or handle this product.</p>
<p><b>RECOMMENDED FIRST AID TREATMENT</b></p> <p>PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO NITROGEN. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.</p> <p><u>Inhalation:</u> Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given assisted respiration and supplemental oxygen. Further treatment should be symptomatic and supportive.</p>

**HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES**

None
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## PHYSICAL DATA

BOILING POINT -320.5°F	LIQUID DENSITY AT BOILING POINT 808.3 kg/m <sup>3</sup>
VAPOR PRESSURE @ 70°F Above the critical temp. of -232.6°F	GAS DENSITY AT 70°F, 1 atm 1.161 kg/m <sup>3</sup>
SOLUBILITY IN WATER Very slightly	FREEZING POINT -345.9°F
EVAPORATION RATE N/A	SPECIFIC GRAVITY (AIR=1) 0.97 @ 70°F
APPEARANCE AND ODOR Colorless, odorless gas	

## FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) N/A	AUTO IGNITION TEMPERATURE N/A	FLAMMABLE LIMITS % BY VOLUME LEL N/A UEL N/A
EXTINGUISHING MEDIA Nonflammable, inert gas		ELECTRICAL CLASSIFICATION Nonhazardous
SPECIAL FIRE FIGHTING PROCEDURES N/A		
UNUSUAL FIRE AND EXPLOSION HAZARDS N/A		

## REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID
Unstable		N/A
Stable	X	
INCOMPATIBILITY (Materials to avoid)		None
HAZARDOUS DECOMPOSITION PRODUCTS		None
HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID
May Occur		N/A
Will Not Occur	X	

## SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.	
VENTILATION See Local Exhaust	SPECIAL N/A
MECHANICAL (Gen.) N/A	OTHER N/A
LOCAL EXHAUST To prevent accumulation of high concentrations so as to reduce the oxygen level in the air to less than 18 molar percent.	
PROTECTIVE GLOVES Any material	<b>EYE PROTECTION</b> Safety goggles or glasses
OTHER PROTECTIVE EQUIPMENT Safety shoes	

## SPILL OR LEAK PROCEDURES

### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in container or container valve, contact HSG for special advice.

### WASTE DISPOSAL METHOD

Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to your supplier. For emergency disposal assistance, contact HSG for special advice.

## SPECIAL PRECAUTIONS\*

<p><b>SPECIAL LABELING INFORMATION</b></p> <p>DOT Shipping Name: Nitrogen, Compressed DOT Shipping Label: Nonflammable Gas</p>	<p>DOT Hazard Class: Division 2.2 I.D. No.: UN 1066</p>
<p><b>SPECIAL HANDLING RECOMMENDATIONS</b></p> <p>Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (&lt;3,000 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder.</p>	
<p><b>SPECIAL STORAGE RECOMMENDATIONS</b></p> <p>Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125°F. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time.</p>	
<p><b>SPECIAL PACKING RECOMMENDATIONS</b></p> <p>Nitrogen is non-corrosive and may be used with any common structural material.</p>	
<p><b>OTHER RECOMMENDATIONS OR PRECAUTIONS</b></p> <p>Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipment of a compressed gas cylinder which has not been filled by the owner or with his (written) consent is a violation of Law. Always secure cylinders in an upright position before transporting them. NEVER transport cylinders in trunks of vehicles, enclosed vans, truck cabs or in passenger compartments. Transport cylinders secured in open flatbed or in open pick-up type vehicles.</p>	

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