

# Material Safety Data Sheet

## Nitrogen, Compressed

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### SECTION I - IDENTIFICATION

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**Issue Date:** March, 1997  
**Last Revision:** January, 2003  
**Manufacturer's Name:** Island Equipment Company  
**Address:** 388 S. Marine Drive  
Tamuning, Guam 96911  
**Emergency Phone No:** CHEMTREC 1-800-424-9300  
GUAM 1-671-565-2485/888-2450  
**Chemical Name and Synonyms:** Nitrogen  
**Trade Name and Synonyms:** Nitrogen  
**Chemical Family:** Inert Gas  
**Formula:** N<sub>2</sub>  
**CAS No:** 7727-37-9  
**Molecular Weight:** 28.013

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### SECTION II - HEALTH HAZARD DATA

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**Time Weighted Average Exposure Limit (TWA):** 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.

**Symptoms of Exposure:** Effects of exposure to high concentrations so as to displace the oxygen in air necessary for life may include any, all or none of the following:

- > Loss of Balance or dizziness;
- > Tightness in the frontal area of the forehead;
- > Tingling of the tongue, fingertips or toes;
- > Weakened speech leading to the inability to utter sounds;
- > Rapid reduction in the ability to perform movements;
- > Loss of tactile sensations;
- > Heightened mental activity

It should be recognized that it is possible that none of the above symptoms may occur in nitrogen asphyxia so that there are no definite warning symptoms. Nitrogen can cause suffocation without warning.

**Toxicological Properties:** Nitrogen is non toxic but the liberation of a large amount in a confined area could displace the amount of oxygen in air necessary to support life.

Not listed in National Toxicology Program(NTP) or IARC; not regulated as a carcinogen by OSHA.

**Recommended First Aid Treatment:**

Prompt attention is mandatory in all cases of overexposure to nitrogen. Rescue personnel should be equipped with self-contained breathing apparatus.

INHALATION: 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 mouth-to-mouth resuscitation and supplemental oxygen. Medical assistance should be sought immediately.

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**SECTION III - PHYSICAL DATA**

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**Boiling Point:** -320.445 F (-195.803 C)  
**Liquid Density @ B.P.** 50.48 lb/cu. ft. (808.607 kg/cu. meter)  
**Vapor Pressure:**  
**Gas Density @ 70 F, 1 atm:** 0.07245 lb./cu. ft. ( 1.1605 kg/cu. meter)  
**Solubility in water:** Bunsen Coefficient = .01557 @ 68 F  
**Freezing Point:** - 346.004 F (-210.002 C)  
**Specific Gravity:** 0.97 (Air = 1.0) @ 70 F  
**Appearance and Odor:** Colorless, odorless gas

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**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

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**Flammable Limit:** Non-Flammable  
**Electrical Classification:** Non-Hazardous  
**Special Fire Fighting Procedure:** In case of fire, container should be kept cool to avoid excessive pressure.  
**Unusual Fire and Explosion Hazard:** Pressure can build up due to heat. Cylinder may explode if pressure relief devices should fail to relieve pressure.

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**SECTION V - REACTIVITY DATA**

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**Stability:** Stable  
**Conditions to avoid:** Excessive heat.  
**Incompatibility:** None  
**Hazardous Decomposition Products:** None  
**Hazardous Polymerization:** Will Not Occur

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**SECTION VI - SPILL OR LEAK PROCEDURE**

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**Steps to be taken in case material is released or spilled:** Avoid inhalation of gas. If leak is in container or container valve, stop leak if you can do it without risk or call Island Equipment Company.  
**Waste Disposal Method:** Slowly vent to atmosphere in open air.

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## SECTION VII - SPECIAL PROTECTION INFORMATION

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<b>Respiratory Protection:</b>	Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.
<b>Ventilation:</b> high	Local Exhaust recommended to prevent accumulation of concentrations so as to reduce the oxygen level in the air to less than 18 molar percent.
<b>Protective Gloves:</b>	Any material
<b>Eye Protection:</b>	Safety goggles or glasses
<b>Other protective equipment:</b>	Safety Shoes when handling cylinders.

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## SECTION VIII - SPECIAL PRECAUTION\*

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<b>Special Labeling Information:</b>	DOT Shipping Name -- Nitrogen or Nitrogen, Compressed ID Number ----- UN 1066 DOT Shipping Label --- Non-Flammable Gas DOT Hazard Class ---- 2.2
<b>Special Handling Recommendations:</b>	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 (< 3 000 psig) piping or system. 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.
<b>Special Storage Recommendations:</b>  falling	Protect cylinders from physical damage. Store in cool, dry, well ventilated area, away from heavily trafficked area and emergency exits. Do not allow the temperature where cylinders are stored to exceed 130 F (54 C). Cylinders should be stored upright and firmly secured to prevent 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.
<b>Special Packaging Recommendation:</b>	Nitrogen is noncorrosive and may be used with any common structural material.
<b>Other Recommendation or Precaution:</b>	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 Federal Law (49CFR).

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