



Safety Data Sheet FOR Nitrogen

In an emergency, call CHEMTREC® at 800-424-9300 or collect 703-527-3887.

SECTION 1 Identification of the substance/mixture and of the company/undertaking

Product identification used on label

Product identifier Nitrogen MSDS ID : N000 (Part Nbr: N000)

Details of the supplier of the safety data sheet

Air Liquide Advanced Materials
Post Office Box 5357
North Branch, New Jersey 08876-5357 USA
Voice: 908-231-9060 or 800-865-8249; Facsimile: 908-231-9063
800-424-9300 or call collect 703-527-3887.

Emergency telephone number

SECTION 2 Hazards identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

GHS Hazard Symbols



GHS Classification Gases under pressure - Compressed Gas
Simple Asphyxiant Category 1

Signal Word Warning

Hazard Statements Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation

Precautionary Statements

Storage Protect from sunlight. Store in a well-ventilated place.

SECTION 3 Composition/information on ingredients

Chemical Name	CAS #	%
Nitrogen	7727-37-9	~ 100

SECTION 4 First aid measures

Inhalation Asphyxiation is the primary health risk. This is the primary route of exposure. Remove the affected person from the gas source or contaminated area. Note: Personal Protective Equipment (PPE), including positive pressure, self contained breathing apparatus, may be required to assure the safety of the rescuer. If the affected person is not breathing spontaneously, administer rescue breathing. If the affected person does not have a pulse, administer CPR. If medical oxygen and appropriately trained personnel are available, administer 100% oxygen to the affected person. Summon an emergency ambulance. If an ambulance is not available, contact a physician, hospital, or poison control center for instruction. Keep the affected person warm, comfortable, and at rest while awaiting professional medical care. Monitor breathing and pulse continuously.

Eyes None expected to be needed, however, use an eye wash for 30 minutes to remove a chemical from your eye regardless of the level of hazard.

Skin Contact No data. No detrimental effect of skin contact has been reported.

Ingestion No hazard in normal industrial use. Do not induce vomiting. Seek medical attention if symptoms develop. Provide medical care provider with this SDS. Ingestion is not a commonly observed route of exposure to this material.



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Note to Doctor None.

SECTION 5 Firefighting measures

Flammability Summary	Nonflammable Gas
Extinguishing media	Not combustible. Use extinguishing media appropriate for surrounding fire. Not applicable, this material is a nonflammable gas..
Fire and/or Explosion Hazards	Material will not ignite or burn.
Fire Fighting Methods and Protection	Will not burn, no special instructions available. Use methods appropriate for surrounding materials. Cool the container or cylinder, and surroundings with water from a suitable distance. Excessive pressure may develop in containers or cylinders exposed to fire, which may result in explosion, regardless of the its content. Containers or cylinders with pressure relief devices (PRD's) may release their contents through such devices if the container or cylinder is exposed to fire. Containers or cylinders without PRD's have no provision for controlled release and are therefore more likely to explode if exposed to fire. Positive pressure, self contained breathing apparatus is required for all fire fighting involving hazardous materials. Full structural firefighting (bunker) gear is the minimum acceptable attire. The need for proximity, entry, and flashover protection and special protective clothing should be determined for each incident by a competent firefighting safety professional.
Hazardous Combustion Products	Not applicable, this material is a nonflammable gas.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures	As nitrogen is a gas at atmospheric conditions, the only means of containment is the enclosure of the space into which it is released. As this material is a gas at atmospheric conditions, the only means of containment is the enclosure of the space into which it is released. Containment is described in Section 7. Clean up consists exhausting the enclosure to the atmosphere. As the only hazard is asphyxiation, dilution with room air until an adequate oxygen concentration (18%) is reached is all that is required. If the release is not contained in an appropriate device or system, all personnel not appropriately protected (see Section 8) must evacuate the contaminated spaces. If the contents of more than one cylinder is released, consider evacuation of additional areas as a precaution against spread. If the release is not contained in an appropriate device or system, all personnel not appropriately protected (see Section 8) must evacuate the contaminated spaces. If the contents of more than one cylinder is released, consider evacuation of additional areas as a precaution against spread.
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SECTION 7 Handling and storage

Precautions for safe handling	Handle this material only in sealed, purged systems. The design of handling systems for hazardous materials is beyond the scope of this SDS, and should be performed by a competent, experienced professional. Consider the use of double-contained piping; diaphragm or bellows sealed, soft seat valves; backflow prevention devices; flash arrestors; and flow monitoring or limiting devices. Gas cabinets, with appropriate exhaust treatment, are recommended, as is automatic monitoring of the secondary enclosures and work areas for release.
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Handle sealed gas cylinders in accordance with CGA P-1, Safe Handling of Compressed



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Gasses in Containers.

Some material may have accumulated behind the outlet plug. Face the outlet away from you and wear appropriate protective equipment when removing the plug to connect the container to your system.

Never introduce any substance into a gas container. If you believe your container may have been contaminated, notify Air Liquide immediately. Provide as much information as possible on the nature and quantity of contamination.

Conditions for safe storage, including any incompatibilities

Store containers in accordance with CGA P-1, Safe Handling of Compressed Gases in Cylinders, local building and fire codes, and other relevant regulations. Materials should be segregated by the hazards they comprise for storage.

Protect the containers from direct sunlight, precipitations, mechanical damage, and temperatures above 52°C (125°F).

Incompatible materials

Ship and store containers with the outlet plug and valve protective cap in place.
None Known

SECTION 8 Exposure controls/personal protection

Control parameters

<u>Chemical Name</u>	<u>ACGIH TLV</u>	<u>ACGIH STEL</u>	<u>OSHA PEL</u>
Nitrogen	No TLV	Not Established	No PEL established

Engineering Measures

Local exhaust is required. Secondary containment, with appropriate exhaust gas treatment, is strongly encouraged and required in some jurisdictions.

Monitor the work area and the secondary containment for release of the material. Automatic alerting of personnel and automatic shutdown of flow are appropriate in most applications and are required in some jurisdictions.

Respiratory Protection

Purge all primary containment systems with a nonreactive gas, such as nitrogen, before introducing this material.

No respiratory protection required under normal conditions of use. Provide general room exhaust ventilation if symptoms of overexposure occur as explained Section III. A respirator is not normally required. Positive pressure, full face, air supplied breathing apparatus should be used for work within a confined space.

Respirator Type(s)

This material does not have established exposure limits. Wear a positive pressure air supplied respirator in situations where there may be potential for airborne exposure Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres

Eye Protection

No special requirements under normal industrial use. When using respiratory protection as described above, use a face mask that provides splash and impact protection for the face and eyes. Wear safety glasses when handling this product.

Skin Protection

Not normally considered a skin hazard. Where use can result in skin contact, practice good personal hygiene. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Wear appropriate gloves when handling sealed cylinders.

Gloves

Heat insulating gloves



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SECTION 9 Physical and chemical properties

Physical State	Gas
Color	Colorless
Odor	None
Odor Threshold	No Data Available
pH	ND
Melting Point	Not determined
Boiling Point	-196 °C
Evaporation Rate	No Data Available
Lower Flammable/Explosive Limit, % in air	No Data Available
Upper Flammable/Explosive Limit, % in air	No Data Available
Vapor Density	1.146 g/L
Specific Gravity	0
Autoignition Temperature	Not determined
Solubility in Water	0.0149
Octanol/Water Partition Coefficient	No Data Available
Viscosity	No Data Available
Volatiles, % by weight	100
Bulk Density	0
Molecular Formula	N ₂
Molecular Weight	28.01 g/mol

SECTION 10 Stability and reactivity

Reactivity	No Data Available
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None Known
Conditions to avoid	None known.
Incompatible materials	None Known
Hazardous decomposition products	None Known

SECTION 11 Toxicological information

Routes of Entry Nitrogen is not toxic by any route. Asphyxia may result if the oxygen concentration is reduced to below 18% by displacement.

Target Organs Potentiall Affected by Exposure

Chemical Interactions that Change Toxicity No chemical interaction known to affect toxicity.

Immediate (Acute) Health Effects by Route of Exposure

Inhalation Irritation Can cause minor respiratory irritation, dizziness, weakness, fatigue, nausea, and headache.

Inhalation Toxicity Non-Toxic. Not known to cause systemic damage.

Skin Contact No hazard in normal industrial use.

Skin Absorption No absorption hazard in normal industrial use.

Eye Contact No hazard in normal industrial use.

Ingestion Irritation No hazard in normal industrial use.

Ingestion Toxicity Ingestion is not an observed route of exposure to gaseous hazardous materials.

Long-Term (Chronic) Health Effects

Carcinogenicity None of the substances have been shown to cause cancer in long term animal studies. Not a carcinogen



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according to NTP, IARC, or OSHA.

- Reproductive and Developmental Toxicity** No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
- Mutagenicity** No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.
- Inhalation** Upon prolonged and/or repeated exposure, can cause minor respiratory irritation, dizziness, weakness, fatigue, nausea, and headache.
- Skin Contact** Unlikely to cause irritation even on repeated contact.
- Skin Absorption** Upon prolonged or repeated exposure, no hazard in normal industrial use.

Component Toxicology Data (NIOSH):

Chemical Name	CAS Number	Inhalation (LC50 ppm - rat)	Ingestion (LD 50 mg/kg - rat)	Absorption
No data available				

SECTION 12 Ecological information

- Overview** This material is not expected to be harmful to the ecology.
- Mobility** No data
- Persistence** No data
- Bioaccumulation** Bioconcentration is not expected to occur.
- Degradability** Material is not expected to degrade in the atmosphere but will quickly disperse to low concentrations.
- Ecological Toxicity Data** No data

SECTION 13 Disposal considerations

- Waste Description for Spent Product** Spent or discarded material is non-hazardous according to environmental regulations.
- Disposal Methods** Treat process and exhaust streams appropriately before release to the atmosphere.

SECTION 14 Transport information

- UN number** UN1066
- UN proper shipping name** NITROGEN, COMPRESSED
- Technical Name** Not applicable
- IATA Air Shipping Name**
- Transport hazard class(es)** 2.2, , ,
- Environmental hazards** Not a marine pollutant.
- Via cargo aircraft shipments, IATA requirements:** 150 kg net
- Via passenger aircraft shipments, IATA requirements:** 75 kg net
- Via Air, IATA emergency response guide nbr:** 2L
- North American Emergency Response Guide Nbr:** 121
- Via water, IMDG code:** 2163
- Via water, IMO Emergency Response Procedures (EmS Guide):** None
- Via water, IMO Medical First Aid Guide (MFAG):** F-C, S-V
- USDOT Special Permits Air Liquide Advanced Materials is a party to for this product:** SP-12339



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Domestic
Transportation
Labels



International
Transportation
Labels



Other
Transportation
Labels

No "Cargo only" label required. Not a marine pollutant.

SECTION 15 Regulatory information

TSCA Status This substance is listed on the TSCA Inventory of Existing Chemical Substances.

Chemical Name	CAS #	Regulation	% Range
No 313-listed chemicals in this product		SARA 313	

SECTION 16 Other information

Revision 09-22-2015

Date

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