

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: 001040
Product Name: Nitrogen

Company Name: Gas Innovations
 18005 E. Hwy 225
 La Porte, TX 77571
Web site address: www.gasinnovations.com **Phone Number:** +1 (281)471-2200
Emergency Contact: 3E (within United States) +1 (866)303-2640
Intended Use: Synthetic/Analytical chemistry +1 (352)323-3500

2. HAZARDS IDENTIFICATION

Flammable Gases: Category 1
Gas Under Pressure: Compressed gas

Symbol:



GHS Signal Word: Warning

GHS Hazard Phrases: H280 - Contains gas under pressure; may explode if heated
 OSHA-H01 - May displace oxygen and cause rapid suffocation
GHS Precaution Phrases: P280 - Wear protective clothing, protective gloves, eye protection, face protection.
 P308+P313 - If exposed or concerned: Get medical advice/attention.
 CGA-PG14 - Approach suspected leak area with caution
 CGA-PG21 - Open valve slowly

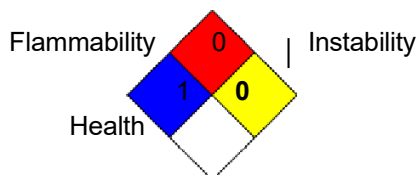
GHS Response Phrases: P308+P313 - If exposed or concerned: Get medical advice/attention.
 P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing

GHS Storage and Disposal Phrases: Protect from sunlight when ambient temperature exceeds 52°C/125 °F. Store in a well-ventilated place. Keep container tightly closed. Use only with adequate ventilation. Do not enter storage areas and confined spaces unless adequately ventilated.

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

Additional Hazards Information Use a back flow preventative device in the piping. Do not open the valve until connected to equipment prepared for use. Close valve after each use and when empty. In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

Hazard Rating System:



NFPA: Special Hazard

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
7727-37-9	Nitrogen	100 %

4. FIRST AID MEASURES

Emergency and First Aid Procedures:	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
In Case of Inhalation:	Remove victims to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous for the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
In Case of Skin Contact:	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
In Case of Eye Contact:	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
In Case of Ingestion:	As this product is a gas, refer to the inhalation section
Signs and Symptoms of Exposure:	Simple asphyxiant. Exposure to oxygen-deficient atmosphere (<19.5%) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness and death.
Notes to physician	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Use an extinguishing agent suitable for the surrounding fire.
Fire Fighting Instructions:	Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Stay away from the ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Flammable Properties and Hazards:	Contains gas under pressure. In a fire or if heated, a pressure increase will occur, and the container may burst or explode. Decomposition products may include the following materials: nitrogen oxides.

6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid breathing gas. Provide adequate ventilation. Wear an appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. Specialized clothing is not required to deal with the spillage, take note of
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any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental Precautions:

Accidental gas release has no impact as to environmental pollution to sewers, waterways, soil or air.

Steps To Be Taken in Case

Immediately contact emergency personnel. Stop leaking without risk.

Material Is Released or Spilled:

Note: see Section 1 for emergency contact information.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:

Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid breathing gas. Use only with adequate ventilation. Wear an appropriate respirator when ventilation is inadequate. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement. Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous. Never attempt to lift a cylinder with its valve protection cap. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valves, causing leaks to occur. Use an adjustable strap wrench to remove over-tight or rusted caps

Precautions To Be Taken in Storing:

Store in accordance with local regulations. Store in an approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F). Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Stored containers should be periodically checked for general condition and leakage.

Other Precautions:

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	NIOSH IDLH
7727-37-9	Nitrogen		No	No

Respiratory Equipment (Specify Type):

The gas can cause asphyxiation without warning by replacing the oxygen in the air. If operating conditions cause high gas concentrations to be produced or any recommended or statutory exposure limit is exceeded, use an air-fed respirator or self-contained breathing apparatus. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Eye Protection:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Protective Gloves:

Wear neoprene gloves during cylinder change out or wherever contact with product is possible.

Body Protection:

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Engineering Controls (Ventilation etc.):

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Work/Hygienic/Maintenance Practices:

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[X] Gas [] Liquid [] Solid
Appearance:	Colorless
Odor:	Odorless
Odor Threshold:	Not available.
pH:	Not Available
Melting Point:	-210 °C
Boiling Point:	-196°C (-320.8°F)
Critical Temperature:	-146.95°C (-232.5°F)
Flash Pt:	[Product does not sustain combustion.]
Evaporation Rate:	No data.
Flammability (solid, gas)	Non-flammable gas
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	760 mmHg at -196 C
Vapor density	0.967 (Air = 1)
Liquid Density at BP:	50.46 lb./ft ³ (808.3 kg/m ³)
Specific Volume (ft ³ /lb.)	13.8889
Gas Density (lb./ft ³)	0.072
Relative density	Not applicable.
Solubility	Not available.
Solubility in Water:	1.485 g/100cm ³
Partition coefficient: n- octanol/water	0.67
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity:	0.01787 cP
Flow time (ISO 2431)	No data.
Molecular Formula:	N ₂
Molar mass:	28.01 g/mole

10. STABILITY AND REACTIVITY

Reactivity:	Stable at normal temperatures and pressure.
Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	Do not allow gas to accumulate in low or confined areas. Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.
Incompatibility Materials to Avoid:	Metals, oxidizing materials
Hazardous Decomposition or Byproducts:	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Oxides of nitrogen
Possibility of Hazardous Reactions:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. TOXICOLOGICAL INFORMATION

Reproductive toxicity:	Not classified.
Specific target organ toxicity:	Not classified.
Irritation or Corrosion:	
Chronic Toxicological Effects:	This product does not contain any carcinogens or potential carcinogens listed by OSHA, IARC or NTP.
Carcinogenicity:	NTP - No IARC Monographs - No OSHA Regulated - No




12. ECOLOGICAL INFORMATION

General Ecological Information:	No ecological damage caused by this product.
Persistence and Degradability:	Not Available
Bio accumulative Potential:	Not expected.
Mobility in Soil:	No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:	This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container. Do not discharge into any place where its accumulation could be dangerous. Ensure that the emission levels from local regulations or operating permits are not exceeded.
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14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):	
DOT Proper Shipping name:	NITROGEN, COMPRESSED
DOT Hazard Class:	2.2
UN/NA number:	UN1066
Labels:	
Sea Transport:	
Transport document description (IMDG):	
UN-No. (IMDG):	UN1066
Proper Shipping Name (IMDG):	NITROGEN, COMPRESSED
Class (IMDG):	2.2
Label:	
Air Transport:	
Transport document description (IATA):	
UN-No. (IATA):	UN1066
Proper Shipping Name (IATA):	NITROGEN, COMPRESSED
Class (IATA):	2.2
Label	

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
7727-37-9	Nitrogen			
CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists		
7727-37-9	Nitrogen	Canada: Yes; EU: Yes;		
CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists		
7727-37-9	Nitrogen	Australia: Yes; China: Yes; Korean: Yes; New Zealand: Yes. Philippines: Yes; Mexico: Yes; Taiwan: Yes.		

16. OTHER INFORMATION

Revision Date:	08/16/2024
Additional Information About This Product:	No data available.
NFPA Ratings:	0= Minimal Hazard 1= Slight Hazard 2= Moderate Hazard 3= Serious Hazard 4= Severe Hazard
Company Policy or Disclaimer:	The information, recommendations, and suggestions herein were compiled from reference material and other sources believed to be reliable. However, the SDS's accuracy or completeness is not guaranteed by Gas Innovations or its affiliates, nor is any responsibility assumed or implied for any loss or damage resulting from inaccuracies or omissions. Since conditions of use are beyond our control, no warranties of merchantability of fitness for a particular purpose are expressed or implied. This SDS is not intended as a license to operate under, or a recommendation to infringe on, any patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.