■ SIGNAL WORD: WARNING

H280: Contains gas under pressure; may explode if heated.
Simple asphyxiant: displaces oxygen — may cause unconsciousness or death in high concentrations.

SECTION 1: IDENTIFICATION

Product Name	Nitrogen
CAS Number	7727-37-9
Synonyms	Dinitrogen; Nitrogen Gas; Refrigerant R728; N2; UN1066 (compressed); UN1977 (refrigerated liquid)
Molecular Formula	N2 | MW: 28.01 g/mol
Product Use	Inert gas; purging/inerting agent; cryogenic cooling; modified atmosphere packaging; desiccant regeneration
Supplier	Cannagas Supply 97 Turnpike Rd, Westborough, MA 01581
Phone	877-710-1965
Email	Sales@canna-gas.com
Emergency Phone	CHEMTREC: 1-800-424-9300 (24-hour)
SDS Revision Date	March 2026

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification	Gases Under Pressure — Compressed Gas (H280). Simple Asphyxiant (SA) — not a GHS classification but a critical health hazard.
Signal Word	**WARNING**
Hazard Statements	H280: Contains gas under pressure; may explode if heated. Simple asphyxiant: in high concentrations displaces oxygen and may cause rapid unconsciousness, brain damage, or death. Victim may not be aware of asphyxiation.
Precautionary – Prevention	P202: Do not handle until all safety precautions have been read. P271: Use only in well-ventilated area. Use oxygen detectors in areas where nitrogen may be released.
Precautionary – Response	P308+313: IF exposed or concerned — get medical attention. Remove victim to fresh air immediately. Apply artificial respiration if not breathing.
Precautionary – Storage	P403: Store in well-ventilated area. P410+403: Protect from sunlight and store in well-ventilated area.
Precautionary – Disposal	P501: Dispose of contents/container per applicable regulations. Return cylinders to supplier.
Other Hazards	CRYOGENIC LIQUID (LN2): Contact with liquid nitrogen causes immediate frostbite/cryogenic burns. Rapid vaporization expands ~700:1 — extreme pressure buildup in sealed containers. Oxygen-enriched atmospheres possible when cold surfaces condense ambient air.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Concentration	EC Number
Nitrogen	7727-37-9	≥99.5% (compressed); ≥99.95% (high purity)	231-783-9

No other components or impurities present at levels that affect classification. All components on TSCA Inventory.

SECTION 4: FIRST-AID MEASURES

Inhalation	ASPHYXIATION RISK: Remove to fresh air immediately — use SCBA if oxygen-deficient atmosphere. Apply artificial respiration if not breathing. Do not give mouth-to-mouth if victim inhaled nitrogen — rescuer may also be asphyxiated. Call emergency services (911). Keep victim warm.
Skin Contact	Compressed gas: no effect expected. Liquid nitrogen (LN2) — cryogenic burn: Do NOT rub affected area. Thaw with lukewarm (not hot) water. Seek immediate medical attention.
Eye Contact	Compressed gas: adverse effects not expected. LN2 splash: flush with water immediately. Seek immediate medical attention.
Ingestion	Not a relevant route of exposure for gas.
Key Symptoms	Asphyxiation: dizziness, ringing in ears, headache, nausea, unconsciousness, death. Victim may not experience warning symptoms before collapse.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Non-flammable. Use agent appropriate for surrounding fire. Do not use water jet on cryogenic liquid nitrogen.
Specific Hazards	Non-combustible and non-flammable. Cylinders/containers may explode if heated (BLEVE risk). Cryogenic containers (Dewars) may vent rapidly if pressure relief valve fails.
Protective Equipment	SCBA and full protective gear. Move containers from fire area if safe to do so. Cool cylinders with water spray.
Flash Point	Not applicable (non-flammable gas)
Autoignition	Not applicable
Flammable Limits	Not applicable — non-flammable

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions	EVACUATE area. Nitrogen displaces oxygen — oxygen-deficient atmospheres may occur without warning. Use SCBA if entry required. Use oxygen monitor before entry. Ventilate area thoroughly.
Environmental Precautions	Nitrogen is a normal component of air. Venting small quantities to atmosphere acceptable. Large releases in enclosed spaces: ensure ventilation.
Containment & Cleanup	Gas: Ventilate and allow to dissipate. Stop source of release if safe. Liquid nitrogen: Allow to evaporate in well-ventilated area. Do not seal evaporating LN2 — pressure buildup risk.

SECTION 7: HANDLING AND STORAGE

Safe Handling	Only experienced, properly trained persons should handle pressurized gas cylinders. Use in well-ventilated areas. Install oxygen detectors where nitrogen may accumulate. Secure cylinders upright with chain or strap. Use appropriate regulators and fittings. Do not drag, roll, or drop cylinders. Use hand truck for transport. Do not allow backfeed of other materials into cylinder. Cryogenic (LN2): use thermally insulated gloves and face shield at all times.
Safe Storage	Store cylinders upright in secure, ventilated area away from heat sources. Comply with NFPA 55 (Compressed Gases and Cryogenic Fluids Code) and CGA standards. Protect from physical damage. Valve caps in place when not in use. LN2 Dewars: store in well-ventilated area — never in enclosed spaces.
Incompatibles	Titanium (burns in nitrogen under some conditions). Lithium (reacts slowly at ambient temperature). Magnesium powder (liquid nitrogen mixture — violent reaction). Avoid contact with flammable materials for cryogenic applications.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Component	Limit Type	Value	Authority

Nitrogen	No established OEL	Simple asphyxiant	OSHA / ACGIH / NIOSH
Oxygen (min.)	Minimum safe level	19.5% O2 in air	OSHA 29 CFR 1910.146
Oxygen (IDLH)	Immediately Dangerous	<16% O2	NIOSH IDLH

Engineering Controls	CRITICAL: Install and maintain oxygen deficiency monitors in areas where nitrogen may be released. Ensure adequate ventilation in all use areas. Never use nitrogen in unventilated enclosed spaces.
Respiratory Protection	Not normally required in ventilated areas. SCBA required for entry into nitrogen-enriched or oxygen-deficient atmospheres. Air-purifying respirators do NOT protect against asphyxiation.
Eye/Face Protection	Safety glasses (compressed gas). Face shield + safety glasses required for cryogenic (LN2) handling.
Hand Protection	Standard gloves for compressed gas. Cryogenic insulated gloves (leather or equivalent) for liquid nitrogen — never use thin nitrile gloves with LN2.
Cryogenic PPE	For liquid nitrogen: face shield, cryogenic gloves, lab coat or protective clothing covering skin, closed-toe shoes.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State (STP)	Colorless, odorless gas
Boiling Point	-195.8°C (-320.4°F) at 1 atm
Melting Point	-210.0°C (-346.0°F)
Critical Temperature	-146.9°C (-232.4°F)
Flammability	Non-flammable, non-combustible
Flash Point	Not applicable

Vapor Density	0.967 (air = 1) — slightly lighter than air
Density (gas)	1.165 kg/m3 at 15°C, 1 atm
Density (liquid)	808 kg/m3 at boiling point
Solubility in Water	~14 mg/L at 25°C (slightly soluble)
Color	Colorless
Odor	Odorless

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Essentially inert under normal conditions. Not reactive with most substances.
Chemical Stability	Stable under all normal conditions. Stable in cylinders.
Hazardous Polymerization	Will not occur.
Conditions to Avoid	Extreme heat (cylinder BLEVE risk). Contact with incompatible materials.
Incompatible Materials	Titanium (burns in nitrogen). Lithium (slow reaction). Liquid nitrogen + magnesium powder (violent reaction).
Hazardous Decomp. Products	None under normal conditions. Nitrogen is the product of decomposition of many nitrogen-containing compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity	No specific toxicological data. Nitrogen is physiologically inert — acts as simple asphyxiant only.
Asphyxiation Hazard	CRITICAL: High concentrations of nitrogen displace oxygen. Oxygen below 19.5% impairs judgment; below 16% immediate danger; below 6% unconsciousness within seconds. Victim may not be aware of asphyxiation onset. Nitrogen is odorless — no sensory warning.
Skin/Eye Effects	Compressed gas: no significant effects. Liquid nitrogen: immediate cryogenic burns/frostbite.
Chronic Effects	No chronic toxicity from nitrogen gas. Chronic oxygen deprivation causes neurological damage.
Carcinogenicity	Not carcinogenic. Not listed on IARC, NTP, or OSHA carcinogen lists.
Reproductive Toxicity	Not classified.

STOT	Not classified — simple asphyxiant, not a specific organ toxin.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	Nitrogen is a major component of air (78.09%). No adverse environmental effects from venting normal industrial quantities.
Persistence/Degradability	Not applicable — inorganic gas, component of natural atmosphere.
Bioaccumulative Potential	Not bioaccumulative.
Other Adverse Effects	None identified.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal Methods	Vent small quantities slowly to well-ventilated atmosphere. Return cylinders to supplier for refill or proper disposal. Do not attempt to refill cylinders. Follow all applicable federal, state, and local regulations.

SECTION 14: TRANSPORT INFORMATION

	DOT (Compressed Gas)	DOT (Refrigerated Liquid)	IATA / IMDG
UN Number	UN1066	UN1977	UN1066 / UN1977
Proper Shipping Name	Nitrogen, compressed	Nitrogen, refrigerated liquid	Nitrogen, compressed
Hazard Class	2.2	2.2	Class 2.2
Packing Group	N/A	N/A	N/A
ERG Number	121	120	—

SECTION 15: REGULATORY INFORMATION

OSHA HazCom	Classified as hazardous per 29 CFR 1910.1200 (gas under pressure; simple asphyxiant).
OSHA IDLH	No established IDLH for nitrogen. Oxygen below 16% = IDLH (NIOSH).
TSCA	Listed on US TSCA Inventory.
SARA 311/312	Physical Hazard: Yes (compressed gas) | Health Hazard: Yes (simple asphyxiant)
CERCLA	No reportable quantity.
California Prop. 65	Not listed.
DOT Emergency	ERG Guide 121 (Compressed Gas – Inert).

SECTION 16: OTHER INFORMATION

Issue Date	March 2026
Version	1.0
Prepared By	Cannagas Supply
Key Sources	GHS Purple Book Rev. 9; OSHA HazCom 2012 (29 CFR 1910.1200); Linde SDS Nitrogen (2022); Praxair SDS P-4631; NIOSH Pocket Guide; CGA Standards.

DISCLAIMER: The information in this SDS is believed to be accurate as of the issue date. Cannagas Supply makes no warranty of any kind. Users are responsible for determining suitability for their application and compliance with all applicable regulations.