

Nitrogen (N<sub>2</sub>) is a colorless, odorless, inert gas comprising 78.09% of the earth's atmosphere. Supplied as a compressed gas in cylinders or as a refrigerated cryogenic liquid (liquid nitrogen, LN<sub>2</sub>), it is the workhorse inert gas across industrial, laboratory, and food applications. Its chemical inertness, wide availability, and low cost make it the preferred purge and blanketing gas.

### SECTION 1: PRODUCT IDENTIFICATION

<b>Product Name</b>	Nitrogen
<b>CAS Number</b>	7727-37-9
<b>Formula</b>	N <sub>2</sub>   MW: 28.01 g/mol
<b>Available Forms</b>	Compressed gas (cylinders); Refrigerated liquid (LN <sub>2</sub> Dewars/bulk)
<b>Purity</b>	≥99.5% (industrial); ≥99.9% (high purity); ≥99.999% (ultra-high purity available)
<b>GHS Signal Word</b>	WARNING (gas under pressure; simple asphyxiant)
<b>UN Numbers</b>	UN1066 (compressed gas); UN1977 (refrigerated liquid)
<b>Supplier</b>	Cannagas Supply   97 Turnpike Rd, Westborough, MA 01581 877-710-1965   Sales@canna-gas.com

### SECTION 2: PHYSICAL & CHEMICAL PROPERTIES

<b>Physical State (STP)</b>	Colorless, odorless gas	<b>Vapor Density</b>	0.967 (air=1) — slightly lighter than air
<b>Boiling Point</b>	-195.8°C (-320.4°F)	<b>Gas Density (15°C)</b>	1.165 kg/m <sup>3</sup> at 1 atm
<b>Melting Point</b>	-210.0°C (-346.0°F)	<b>Liquid Density</b>	808 kg/m <sup>3</sup> at boiling point
<b>Critical Temp.</b>	-146.9°C (-232.4°F) at 33.9 bar	<b>Solubility</b>	~14 mg/L in water at 25°C
<b>Flammability</b>	Non-flammable, non-reactive	<b>Color</b>	Colorless
<b>Flash Point</b>	Not applicable	<b>Odor</b>	Odorless

### SECTION 3: PURITY SPECIFICATIONS

<b>Purity (industrial)</b>	≥99.5% N <sub>2</sub>
<b>Purity (high purity)</b>	≥99.9% N <sub>2</sub>
<b>Purity (UHP)</b>	≥99.999% N <sub>2</sub>
<b>Residue on Evap.</b>	None — 100% volatile
<b>Moisture</b>	Not detectable (varies by grade — confirm with COA)
<b>Oxygen Content</b>	<50 ppm (HP grade); <10 ppm (UHP grade)

### SECTION 4: APPLICATIONS

<b>Purging &amp; Inerting</b>	Primary use in cannabis/botanical extraction: purge closed-loop systems before and after runs. Remove oxygen, moisture, and flammable vapors from process equipment.
<b>Molecular Sieve Regen.</b>	Purge gas for molecular sieve bead regeneration — pass dry N <sub>2</sub> through heated sieves to remove adsorbed water and CO <sub>2</sub> .
<b>Desiccant Regen.</b>	Carrier gas for activated alumina and silica gel regeneration.
<b>Modified Atmosphere</b>	Blanketing gas to prevent oxidation of sensitive products and extracts.

<b>Cryogenic Cooling</b>	Liquid nitrogen (LN2): rapid freezing, cold trapping, and process cooling. LN2 provides temperatures to -196°C.
<b>Lab / Analytical</b>	Carrier gas for GC; solvent evaporation (N2 blowdown); inert atmosphere for air-sensitive reactions.
<b>Food Applications</b>	FDA GRAS — approved for food contact applications as inert packaging gas.

**SECTION 5: CYLINDER & STORAGE**

<b>Cylinder Pressure</b>	Compressed: typically 2,000–3,000 psig (138–207 bar) at 70°F
<b>Valve Connection</b>	CGA 580 (compressed N2 cylinders)
<b>LN2 Storage</b>	Dewars or bulk cryogenic tanks — open-top vented containers only.
<b>Storage</b>	Secure cylinders upright. Well-ventilated area away from heat. Comply with NFPA 55/CGA.
<b>Handling</b>	Use oxygen monitors in enclosed areas. Install in properly rated equipment. LN2: cryogenic gloves + face shield at all times.

**SECTION 6: SAFETY SUMMARY**

■ **SAFETY NOTE: ASPHYXIATION HAZARD:** Nitrogen displaces oxygen — asphyxiation may occur without warning. Install O2 monitors. Never use nitrogen in unventilated enclosed spaces. LN2: extreme cryogenic burns on contact. Refer to full SDS.

<b>GHS Signal Word</b>	WARNING
<b>Key Hazard</b>	H280: Gas under pressure. Simple asphyxiant — no warning before unconsciousness.
<b>SDS Reference</b>	Full SDS available. CHEMTREC: 1-800-424-9300.

**DISCLAIMER:** Information in this TDS is believed to be accurate as of the issue date. Cannagas Supply makes no warranty regarding fitness for a particular purpose. Refer to the full Safety Data Sheet (SDS) for complete hazard and safety information.