



Safety Data Sheet

Nitrous Oxide

In Case of Emergency: Chemtrec 800-424-9300

Section 1: Product and Company Identification

Gas and Supply

125 Thruway Park
Broussard, LA 70518
877-441-7311
Fax: 337-839-8235
www.gasandsupply.com

Product Code: Nitrous Oxide

Synonyms: Nitrogen oxide; Nitrous oxide; Nitrogen oxide (N₂O); Laughing gas;

Hyponitrous acid anhydride; Dinitrogen monoxide

Recommended Use: Synthetic/Analytical chemistry

Section 2: Hazards Identification



Danger

Hazard Classification:

OXIDIZING GASES - Category 1

GASES UNDER PRESSURE - Compressed gas

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) -Category 3

Hazard Statements:

May cause or intensify fire; oxidizer

Contains gas under pressure; may explode if heated.

May displace oxygen and cause rapid suffocation.

May cause drowsiness and dizziness.

Precautionary Statements

P202 - Do not handle until all safety precautions have been read and understood

P271 - Use only outdoors or in a well-ventilated area

P280 - Wear eye protection, face protection, protective gloves, protective clothing

P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing

P308+P313 - If exposed or concerned: Get medical advice/attention

P403 - Store in a well-ventilated place

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

CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)

CGA-PG05 - Use a back flow preventive device in the piping

CGA-PG06 - Close valve after each use and when empty

CGA-PG10 - Use only with equipment rated for cylinder pressure

CGA-PG14 - Approach suspected leak area with caution

CGA-PG21 - Open valve slowly

Prevention:

Keep away from clothing, incompatible materials and combustible materials. Keep reduction valves free from grease and oil. Use only outdoors or in a well-ventilated area. Avoid breathing gas.
Use and store only outdoors or in a well ventilated place.

Other Hazards: This product may displace oxygen and cause rapid suffocation, In addition to any other important health or physical hazards

Response:

In case of fire: Stop leak if safe to do so.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

Storage:

Protect from sunlight.
Store in well-ventilated place.
Store locked up.

Disposal:

Dispose of contents and/or container in accordance with applicable regulations.

Section 3: Composition/Information on Ingredients

CAS #

10024-97-2

Chemical Substance	Chemical Family	Trade Names
NITROUS OXIDE	inorganic, gas	DINITROGEN MONOXIDE; FACTITIOUS AIR; LAUGHING GAS; HYPONITROUS ACID ANHYDRIDE; NITROGEN (I) OXIDE; NITROGEN OXIDE; STCC 4904340; UN 1070; NITROGEN OXIDE (N2O); DINITROGEN OXIDE; NITROUS OXIDE, COMPRESSED; N2O

Section 4: First Aid Measures

Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.	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..	Not applicable route of exposure.	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.	For inhalation, consider oxygen.

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Non-flammable. Use suitable extinguishing media for surrounding fire.	Decomposition products may include the following materials: nitrogen oxides	<ul style="list-style-type: none">Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode..

Section 6: Accidental Release Measures

Personal Precautions	Environmental Precautions	Methods for Containment
Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering. Avoid contact with combustible materials.	No adverse effects expected.	Stop leak if possible without personal risk.

Methods for Cleanup	Other Information
Stop leak, evacuate and ventilate area.	None

Section 7: Handling and Storage

Handling	Storage
Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.105.	Store in accordance with local regulations.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
NITROUS OXIDE: 50 ppm ACGIH TWA 25 ppm (46 mg/m3) NIOSH recommended TWA (halogenated anesthetic gas)

Engineering Controls

Handle only in fully enclosed systems.

Eye Protection	Skin Protection	Respiratory Protection
For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.	For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.	Non-flammable

General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

Section 9: Physical and Chemical Properties

Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor	Taste
Gas	Clear	Colorless	N/A	Gas	Sweet odor	Sweet taste

Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
Not flammable	Not available	Not available	Nonflammable	Nonflammable	Nonflammable

Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
-128 F (-89 C)	-132 F (-91 C)	760 mmHg @ -88 C	1.53 (Air=1)	Not applicable	59% @ 25 C	Not applicable	Not available	Not applicable	0.0145 cP @ 25 C

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
44.01	N2-O	1.8122 g/L @ 25 C	Not available	Not applicable	Not applicable	Soluble: Sulfuric acid, alcohol, alkali solutions, ether, oils

Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
Stable at normal temperatures and pressure. Decomposes to nitrogen and oxygen at high temperatures	Stable at normal temperatures and pressure. Decomposes to nitrogen and oxygen at high temperatures	Combustible materials, metals, bases, reducing agents, peroxides, metal salts, metal oxides, hydrogen

Hazardous Decomposition Products	Possibility of Hazardous Reactions
Oxides of nitrogen	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

Oral LD50	Dermal LD50	Inhalation
Not available	Not available	Nausea, vomiting, symptoms of drunkenness, hyperactivity or drowsiness, hearing loss, suffocation, death

Eye Irritation	Skin Irritation	Sensitization
Liquid: frostbite, blurred vision	Liquid: blisters, frostbite	Potentially fatal if inhaled, central nervous system depression, difficulty breathing TERATOGEN/EMBRYOTOXIN - can harm the unborn child, based on human information.

Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3 (Anesthetics, volatile); ACGIH: A4 -Not Classifiable as a Human Carcinogen	Available.	Available.	No data

Section 12: Ecological Information

Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available

Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations.

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
Nitrous oxide	UN1070	2.2	Not applicable	2.2; 5.1	N/A	N/A	N/A

Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
Nitrous oxide	UN1070	2.2; 5.1	Not applicable

Section 15: Regulatory Information

U.S. Regulations

CERCLA Sections	SARA 355.30	SARA 355.40
Not regulated.	Not regulated.	Not regulated.

SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release
Yes	No	No	No	Yes

SARA 372.65

Not regulated.

OSHA Process Safety

Not regulated.

State Regulations

CA Proposition 65
Not regulated.

Canadian Regulations

WHMIS Classification
A,C

National Inventory Status

US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Listed on inventory.	Not listed.	Not determined.

Section 16: Other Information

NFPA Rating
HEALTH=1 FIRE=0 REACTIVITY=0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard