



# Material Safety Data Sheet

## N2O Mix

### Section 1: Product and Company Identification

**SpecAir Specialty Gases**  
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Product Code: N2O Mix

Gas Name	Concentration
Nitrous Oxide	500 ppm
Nitrogen	Balance

	Chemical Substance	Chemical Family	Trade Names
Nitrous Oxide	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
Nitrogen	NITROGEN, COMPRESSED GAS	inorganic, gas	DIATOMIC NITROGEN; DINITROGEN; NITROGEN; NITROGEN-14; NITROGEN GAS; UN 1066; N2

### Section 2: Hazards Identification

	Description	Main Health Hazard
Nitrous Oxide	Colorless, sweet odor Oxidizer. Containers may rupture or explode if exposed to heat.	Potentially fatal if inhaled, central nervous system depression, difficulty breathing TERATOGEN/EMBRYOTOXIN - can harm the unborn child, based on human information.
Nitrogen	Colorless, odorless Containers may rupture or explode if exposed to heat.	Difficulty breathing

#### Likely Routes of Exposure:

	Inhalation	Ingestion	Eye	Skin	Health Effects	Target Organs	Medical Condition Aggravated by -
Nitrous Oxide	Nausea, vomiting, symptoms of drunkenness, hyperactivity or drowsiness, hearing loss, suffocation, death	Liquid: frostbite	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.	Central nervous system	Pregnant women should avoid nitrous oxide

	Inhalation	Ingestion	Eye	Skin	Health Effects	Target Organs	Medical Condition Aggravated by -
<b>Nitrogen</b>	Nausea, vomiting, difficulty breathing, headache, drowsiness, dizziness, tingling sensation, loss of coordination, convulsions, coma	Ingestion of a gas is unlikely	Contact with rapidly expanding gas may cause burns or frostbite	No information on significant adverse effects	Difficulty breathing	Respiratory system	Pre-existing conditions of respiratory system.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Section 3: Composition/Information on Ingredients

	CAS #	% by Weight
<b>Nitrous Oxide</b>	10024-97-2	500 ppm
<b>Nitrogen</b>	7727-37-9	Balance

### Section 4: First Aid Measures

	Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
<b>Nitrous Oxide</b>	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.	Flush eyes with plenty of water.	If a large amount is swallowed, get medical attention.	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.
<b>Nitrogen</b>	Wash exposed skin with soap and water.	Flush eyes with plenty of water.	If a large amount is swallowed, get medical attention.	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
<b>Nitrous Oxide</b>	Non-flammable. Use suitable extinguishing media for surrounding fire.	Non-flammable	<ul style="list-style-type: none"> <li>Non-flammable</li> </ul>
<b>Nitrogen</b>	Non-flammable. Use suitable extinguishing media for surrounding fire. Cylinders may rupture or explode if exposed to heat.	Non-flammable	<ul style="list-style-type: none"> <li>Respiratory protection may be needed for frequent or heavy exposure.</li> </ul>

### Section 6: Accidental Release Measures

	Personal Precautions	Environmental Precautions	Methods for Containment
<b>Nitrous Oxide</b>	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.
<b>Nitrogen</b>	Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.	No significant effects from contamination expected.	Stop leak if possible without personal risk.

	Methods for Cleanup	Other Information
<b>Nitrous Oxide</b>	Stop leak, evacuate and ventilate area.	None
<b>Nitrogen</b>	N/A	N/A

## Section 7: Handling and Storage

	Handling	Storage
<b>Nitrous Oxide</b>	Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.105.	Keep separated from incompatible substances.
<b>Nitrogen</b>	Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101.	Keep separated from incompatible substances.

## Section 8: Exposure Controls/Personal Protection

	Exposure Guidelines
<b>Nitrous Oxide</b>	NITROUS OXIDE: 50 ppm ACGIH TWA 25 ppm (46 mg/m <sup>3</sup> ) NIOSH recommended TWA (halogenated anesthetic gas)
<b>Nitrogen</b>	NITROGEN, COMPRESSED GAS: NITROGEN: ACGIH (simple asphyxiant)

### Engineering Controls

Handle only in fully enclosed systems.

	Eye Protection	Skin Protection	Respiratory Protection
<b>Nitrous Oxide</b>	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
<b>Nitrogen</b>	Eye protection not required, but recommended.	Protective clothing is not required.	Respiratory protection may be needed for frequent or heavy exposure.

### 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
<b>Nitrous Oxide</b>	Gas	Clear	Colorless	N/A	Gas	Sweet odor	Sweet taste
<b>Nitrogen</b>	Gas	Clear	Colorless	N/A	Gas	Odorless	Tasteless

	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
<b>Nitrous Oxide</b>	Not flammable	Not available	Not available	Nonflammable	Nonflammable	Nonflammable
<b>Nitrogen</b>	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
<b>Nitrous Oxide</b>	-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
<b>Nitrogen</b>	-321 F (-196 C)	-346 F (-210 C)	760 mmHg @ -196 C	0.967 (Air=1)	Not applicable	1.6% @ 20 C	Not applicable	Not available	Not applicable	0.01787 cP @ 27 C

	Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
<b>Nitrous Oxide</b>	44.01	N <sub>2</sub> O	1.8122 g/L @ 25 C	Not available	Not applicable	Not applicable	Soluble: Sulfuric acid, alcohol, alkali solutions, ether, oils
<b>Nitrogen</b>	28.0134	N <sub>2</sub>	1.2506 g/L	Not available	100%	1	Soluble: Liquid ammonia

## Section 10: Stability and Reactivity

	Stability	Conditions to Avoid	Incompatible Materials
<b>Nitrous Oxide</b>	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
<b>Nitrogen</b>	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Metals, oxidizing materials

	Hazardous Decomposition Products	Possibility of Hazardous Reactions
<b>Nitrous Oxide</b>	Oxides of nitrogen	Will not polymerize.
<b>Nitrogen</b>	Oxides of nitrogen	Will not polymerize.

## Section 11: Toxicology Information

### Acute Effects

	Oral LD50	Dermal LD50	Inhalation
<b>Nitrous Oxide</b>	Not available	Not available	Nausea, vomiting, symptoms of drunkenness, hyperactivity or drowsiness, hearing loss, suffocation, death
<b>Nitrogen</b>	Not available	Not available	Nausea, vomiting, difficulty breathing, headache, drowsiness, dizziness, tingling sensation, loss of coordination, convulsions, coma

	Eye Irritation	Skin Irritation	Sensitization
<b>Nitrous Oxide</b>	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.
<b>Nitrogen</b>	Contact with rapidly expanding gas may cause burns or frostbite	No information on significant adverse effects	Difficulty breathing

### Chronic Effects

	Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
<b>Nitrous Oxide</b>	IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3 (Anesthetics, volatile); ACGIH: A4 -Not Classifiable as a Human Carcinogen	Available.	Available.	No data
<b>Nitrogen</b>	Not hazardous	Not available	Not available	No data

## Section 12: Ecological Information

### Fate and Transport

	Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
<b>Nitrous Oxide</b>	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
<b>Nitrogen</b>	Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available	Not available	Not available	Not available

	Phyto toxicity: Not available Other toxicity: Not available			
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## Section 13: Disposal Considerations

<b>Nitrous Oxide</b>	Dispose in accordance with all applicable regulations.
<b>Nitrogen</b>	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
<b>Nitrous Oxide</b>	Nitrous oxide	UN1070	2.2	Not applicable	2.2; 5.1	N/A	N/A	N/A
<b>Nitrogen</b>	Nitrogen, compressed	UN1066	2.2	Not applicable	2.2	75 kg or L	150 kg	N/A

### Canadian Transportation of Dangerous Goods

	Shipping Name	UN Number	Class	Packing Group / Risk Group
<b>Nitrous Oxide</b>	Nitrous oxide	UN1070	2.2; 5.1	Not applicable
<b>Nitrogen</b>	Nitrogen, compressed	UN1066	2.2	Not applicable

## Section 15: Regulatory Information

### U.S. Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40
<b>Nitrous Oxide</b>	Not regulated.	Not regulated.	Not regulated.
<b>Nitrogen</b>	Not regulated.	Not regulated.	Not regulated.

### SARA 370.21

	Acute	Chronic	Fire	Reactive	Sudden Release
<b>Nitrous Oxide</b>	Yes	No	No	No	Yes
<b>Nitrogen</b>	Yes	No	No	No	Yes

### SARA 372.65

<b>Nitrous Oxide</b>	Not regulated.
<b>Nitrogen</b>	Not regulated.

### OSHA Process Safety

<b>Nitrous Oxide</b>	Not regulated.
<b>Nitrogen</b>	Not regulated.

### State Regulations

	CA Proposition 65
<b>Nitrous Oxide</b>	Not regulated.
<b>Nitrogen</b>	Not regulated.

### Canadian Regulations

	WHMIS Classification
<b>Nitrous Oxide</b>	A,C
<b>Nitrogen</b>	A

### National Inventory Status

	US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)

<b>Nitrous Oxide</b>	Listed on inventory.	Not listed.	Not determined.
<b>Nitrogen</b>	Listed on inventory.	Not listed.	Listed on inventory.

## Section 16: Other Information

	NFPA Rating
<b>Nitrous Oxide</b>	HEALTH=1 FIRE=0 REACTIVITY=0
<b>Nitrogen</b>	HEALTH=1 FIRE=0 REACTIVITY=0

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