

MATERIAL SAFETY DATA SHEET, NO. 005200
NY-TROUS +
NITROUS OXIDE AND SULFUR DIOXIDE MIXTURE

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Chemical Name and Synonyms: Nitrous oxide and sulfur dioxide mixture
Trade Name and Synonyms: NY-TROUS+
Chemical Family: Oxide of nitrogen, oxide of sulfur
Formula: N₂O, SO₂

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

<u>Material</u>	<u>Volume %</u>	<u>CAS No.</u>	<u>OSHA PEL</u>	<u>ACGIH TLV / STEL</u>
Sulfur Dioxide	50-100 ppm	7446-09-5	5 ppm	2 ppm/5 ppm
Nitrous Oxide	Balance	10024-97-2	Simple Asphyxiant	50 ppm / -

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION!

High pressure oxidizing gas.
Do not breathe gas.
Vigorously supports combustion.

Effects of Overexposure:
(inhalation)

Asphyxiation can occur by displacement of air. Can induce hysteria, dizziness, unconsciousness and death. Sulfur dioxide at 8-12 ppm can cause throat irritation, coughing, constriction of the chest and eye irritation.

Carcinogenicity:

Not listed in NTP or IARC; not regulated as a carcinogen by OSHA

Chronic Effects:

Some epidemiologic studies suggest that long term exposure to nitrous oxide may have certain health hazards including neurological and reproductive effects.

SECTION 4 - FIRST AID MEASURES

Emergency and First Aid Procedures:

Remove to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, administer artificial respiration. Obtain prompt medical attention.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point:	N/A
Flammable Limit:	N/A
Autoignition	N/A
Extinguishing Media:	Non-flammable, vigorously supports combustion.
Special Fire Fighting Procedures:	Keep containers cool with water spray. Remove source of nitrous oxide which accelerates combustion; stop gas flow.
Unusual Fire and Explosion Hazards:	Excessive pressure can build up due to heat. Containers may explode if pressure relief devices should fail to relieve pressure.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Steps to be taken in case material is released or spilled:	Provide adequate ventilation to maintain oxygen concentration above 19.5% by volume. Emergency personnel will require self-contained breathing apparatus if oxygen concentration is below 19.5% by volume. Evacuate the area affected. Use appropriate protective equipment. Remove ignition sources.
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SECTION 7 - HANDLING AND STORAGE

Precautions to be taken in handling and storage:	Cylinders should not be dropped. Keep properly secured or protected to prevent cylinders from being knocked over. Material can be stored outside. Temperature should be kept below 125°F.
Other Precautions:	Cylinders should be stored upright with valve cap in place. Cylinders must not be recharged unless by or with the consent of the Puritan Medical Products, Inc.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye Protection:	Safety goggles or glasses
Protective Gloves:	PVC or rubber
Local Exhaust:	Recommended exhaust to prevent accumulation above the TWA.
Ventilation:	See Section 6; use hood with forced ventilation.
Respiratory Protection:	See Section 6; positive pressure airline with mask or self-contained breathing apparatus.
Other Protective Equipment:	Safety shoes when handling cylinders.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Molecular Weight:	N/A
Boiling Point:	N/A
Vapor Pressure:	N/A
Specific Gravity (Air = 1.0):	N/A
Solubility in Water:	Slight
Percent Volatile by Volume:	100%
Evaporation Rate:	Gas
Appearance, odor and state:	Colorless gas with pungent irritating odor.

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Stable
Conditions to Avoid:	Excess heat. Can decompose at high temperatures.
Materials to Avoid:	Hydrocarbons and other flammable materials.
Hazardous Decomposition Products:	Primarily decomposes to nitrogen and oxygen, some nitric oxide or nitrogen dioxide may be produced.
Hazardous Polymerization:	Will not occur

SECTION 11 - TOXICOLOGICAL INFORMATION

Reproductive Effects	Exposure to nitrous oxide may cause adverse reproductive effects.
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SECTION 12 - ECOLOGICAL INFORMATION

No adverse ecological effects are expected.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Method:	The cylinder should be returned to the supplier for disposal. The cylinder may be emptied by a person knowledgeable in the hazards of high pressure cylinders as follows: Move the cylinder to an exhaust hood or an open outdoor area. Attach a regulator to the cylinder and vent the remaining gas.
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SECTION 14 - TRANSPORT INFORMATION

DOT / IMO Shipping Name:	Compressed Gas, oxidizing, n.o.s., (Nitrous oxide, sulfur dioxide)
Hazard Class:	2.2 (Nonflammable Gas)
Identification number:	UN 3156
Product RQ	None
Shipping Label(s)	Nonflammable gas and oxidizer
Placard (when required)	Nonflammable gas
Special Shipping Information	Cylinders should be transported in a secure position, in a well ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards and should be discouraged.

SECTION 15 - REGULATORY INFORMATION

The following information concerns selected regulatory requirements potentially applicable to this product. Not all requirements are identified. Users of this product are responsible for their own regulatory compliance on a federal, state and local level.

U.S. Federal Regulations:

CERCLA:	Reportable Quantity: None
SARA	Extremely Hazardous Substances: None
	Threshold Planning Quantity: None
SARA HAZARD CLASS:	Immediate: No
	Delayed: No
	Pressure: Yes
	Reactivity: No
	Fire: No
SARA ANNUAL REPORT	Not required
40 CFR PART 68:	Mixture not listed

TSCA
OSHA
FDA

Nitrous oxide and sulfur dioxide are listed on the TSCA inventory.
Components of this mixture are not listed in Appendix A.
N/A

SECTION 16 - OTHER INFORMATION

NFPA Ratings:

Health = 3
Flammability=0
Reactivity=0
Special=OX

Standard Valve Connection:

Threaded: CGA 660
Use the proper CGA connections
Do not use adapters.

Additional Information:

Please refer to CGA Bulletin SB-2 "Oxygen Deficient Atmospheres", P-1 "Safe Handling of Compressed Gases in Containers", SB-4, P-14 "Accident Prevention in Oxygen-Rich and Oxygen-Deficient Atmospheres", SB-6 "Nitrous Oxide Security and Control", and CGA Pamphlets P-12 "Safe Handling of Cryogenic Liquids", G-8.2 "Commodity Specifications for Nitrous Oxide", G-4.1 "Cleaning Equipment for Oxygen Service".

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