Precision Gas Products Inc.

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Nitrogen Dioxide in Nitrogen
2 ppm to 500 ppm

MATERIAL SAFETY DATA SHEET

Identification

Revision Date 01-01-15

Products Name: NITROGEN DIOXIDE IN NITROGEN 2 PPM TO 500 PPM
Chemical Family: Gas Mixture
Chemical Formula: NO2 in Nitrogen
Synonyms: Calgas, NO2 in Nitrogen Mixture
MSDS Identification Code/ Number: MSDS 146N

Composition/ Information on Ingredients

Ingredient Name		Concentration Percent by W eight
NITROGEN DIOXIDE CAS Number: 10102-44-0	**Exposure Limits** • ACGIH TLV-TWA: 3 ppm • ACGIH TLV-STEL: 5 ppm • IDLH: 50 ppm • OSHA PEL-Ceiling: 5 ppm	0.0002 to 0.05
NITROGEN CAS Number: 7727-37-9	Simple Asphyxiant –Maintain oxygen levels above19.5%l	99.995% to 99.998%

Hazard Identification

No data given

First Aid Measures

Eyes
Immediately flush with tepid water

Inhalation
Prompt medical attention is mandatory in all cases of overexposure. Rescue personnel should be equipped with self-contained breathing apparatus. Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, and if breathing has stopped, administer artificial resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

Fire Fighting Measures

Flammable Properties
Flash Point: N/A
Lower Explosive Limit (%): N/A
Upper Explosive Limit (%): N/A

- Fire and Explosion Hazards: None
- Extinguishing Media: This product is a nonflammable gas. Use any extinguishing media that is suitable for surrounding fire.

Accidental Release Measures

Evacuate all personnel from affected areas. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is in container or container valve, contact CHEMTREC location for emergency assistance.

Handling and Storage

- Handling and Storage Precautions

Use only in well – ventilated areas. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure-reducing regulator when connecting cylinder to lower pressure (<3000 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous backflow into the system**.**

Protect cylinders from physical damage. Store in cool, dry, well – ventilated area of noncombustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 130°F (54°C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Use a "first in, first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "NO SMOKING OR OPEN FLAMES" signs in the storage area or use area. There should be no sources of ignition in the storage or use area.

Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid form in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, asphyxiation or toxic exposure.

Exposure Controls/Personal Protection

Engineering Controls: Use local exhaust to prevent accumulation of high concentrations so as to reduce the oxygen level in the air to less than 19.5 molar percent.

Eye/Face Protection: Safety goggles or glasses.

Skin Protection: Protective gloves of any material.

Respiratory Protection: Positive pressure air lines with mask or self-contained breathing apparatus should be available for emergency use.

Other/General Protection: Safety shoes.

Physical & Chemical Properties

Appearance: A colorless gas.
Odor: Odorless gas.

Basic Physical Properties
Solubility (H20): Very low solubility

Stability & Reactivity

Stability: Stable

Incompatible Materials: None

Hazardous Polymerization: Will not occur

Toxicological Information

Acute Inhalation Effects

These mixtures are nontoxic, however, high concentrations of nitrogen dioxide vapors are a strong irritant to the pulmonary tract. Initial symptoms of inhalation may be moderate and include irritation of the eyes and throat, tightness of the chest, headache, nausea and gradual loss of strength. Severe symptoms may be delayed (possibly for 5 to 7 hours) and include cyanosis, increased difficulty in breathing, irregular respiration, lassitude and possible eventual death due to pulmonary edema in untreated cases.

Carcinogenicity – NTP: No IARC: No OSHA: No

Ecological Information

No data given

Disposal Considerations

Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secure and valve protection cap in place to Precision Gas Products for proper disposal.

Transport Information

Proper Shipping Name: Compressed Gas, N.O.S., (Nitrogen, Nitrogen Dioxide)
Hazardous Class: 2.2
CT (DOT) Identification Number: UN 1956
CT (DOT) Shipping Label: Nonflammable Gas

Regulatory Information

SARA Title III Notifications and Information
SARA Title III – Hazard Class: Acute Health Hazard
Sudden Release of Pressure Hazard

Other Information

Hazard Rating	Health:	1 High
	Fire:	0 Negligible
	Reactivity:	0 Negligible

MSDS Identification Code/Number: MSDS 146N

Reference Documentation

Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipments of a compressed gas cylinder, which has not been filled by the owner or with his (written) consent is a violation of Federal Law (49CFR).

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