

Precision Gas Products Inc.

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Containing the Following Components in a Nitrogen Balance Gas:

Methane: 0.0001% to 50%

MATERIAL SAFETY DATA SHEET

Identification

Revision Date 01-01-09

Products Name: **METHANE IN NITROGEN 0.0001% TO 50%**

CAS Number: N/A

Chemical Family: Gas Mixture

Chemical formula: CH₄ in Nitrogen

MSDS identification Code/ Number: MSDS 197N

Composition/ Information on Ingredients

	Concentration Percent by Weight 0.0001 to 50.0
Ingredient Name	
METHANE CAS Number: 74-82-8	
Exposure Limits	
• ACGIH TLV-TWA:D, Simple Asphyxiant	
NITROGEN Simple Asphyxiant-Maintain oxygen levels above 19.5%	50.0 to 99.999
CAS Number: 7727-37-9	

Hazard Identification

No data given

First Aid Measures

Eyes

Never introduce oil or ointment into the eyes without medical advice! In case of freezing or cryogenic "burns" by rapidly evaporating liquid, do not wash the eyes with hot or even tepid water! Remove victim from the source of contamination. Open eyelids wide to allow liquid to evaporate. If pain is present, refer the victim to an ophthalmologist for further treatment and follow-up. If the victim cannot tolerate light, protect eyes with a light bandage or handkerchief.

Inhalation

Prompt medical attention is mandatory in all cases of overexposure. Rescue personnel should be equipped with self-contained breathing apparatus.

Victims 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: Gas

Lower Explosive Limit (%): 5 (CH₄)

Upper Explosive Limit (%): 15 (CH₄)

• **Fire and Explosion Hazards**

Should flame be extinguished and flow of gas continue, increase ventilation to prevent flammable mixture formation in low areas or pockets.

• **Extinguishing Media**

Water, carbon dioxide, dry chemical

• **Electrical Classification:** Class 1, Group D

The gas is flammable in concentrations of methane above 5%.

• **Fire Fighting Instructions**

If possible, stop flow of gas mixture. Use water spray to cool surrounding containers.

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.

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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.

For additional recommendations consult Compressed Gas Association Pamphlet P-1, P-9, P-14, and safety bulletin SB-2. 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**

Hood with forced ventilation. Local exhaust to prevent accumulation above the exposure limit. Mechanical in accordance with electrical codes.

- **Eye/Face Protection**

Safety goggles or glasses.

- **Skin Protection**

Plastic or rubber gloves.

- **Respiratory Protection**

Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.

- **Other/General Protection**

Safety shoes, safety shower, eyewash “fountain”.

Physical & Chemical Properties

Appearance: A colorless gas.

Odor: Odorless gas.

Basic Physical Properties

Solubility (H₂O): Negligible

Stability & Reactivity

- **Stability:** Stable

- **Incompatible Materials:** Oxidizers

Toxicological Information

- **Eye Effects**

Contact with liquid may cause tissue freezing.

- **Acute Inhalation Effects**

Methane and nitrogen are a simple asphyxiant. Oxygen levels should be maintained at greater than 19.5 molar percent at normal atmospheric pressure which is equivalent to a partial pressure of 135 mm Hg.

High concentrations of this gas so as to exclude an adequate supply of oxygen to the lungs causes dizziness, deeper breathing due to air hunger, possible nausea and eventual unconsciousness.

Methane in nitrogen is relatively inactive biologically and essentially nontoxic; therefore, the major hazard is the exclusion of an adequate supply of oxygen to the lungs.

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.

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Transport Information

<10.4% Methane

Proper Shipping Name: Compressed Gas, N.O.S., (Nitrogen, Methane)

Hazardous Class: 2.2

CT (DOT) Identification Number: UN 1956

CT (DOT) Shipping Label: Nonflammable Gas

>10.4% Methane

Proper Shipping Name: Compressed Gas, Flammable N.O.S., (Nitrogen, Methane)

Hazardous Class: 2.13

CT (DOT) Identification Number: UN 1954

CT (DOT) Shipping Label: Flammable Gas

Regulatory Information

SARA Title III Notifications and Information

SARA Title III – Hazard Class: Sudden Release of Pressure Hazard

Fire hazard

Acute Health Hazard

Other Information

MSDS Identification Code/Number: MSDS 197N

Reference Documentation

Methane and Nitrogen are noncorrosive and may be used with any common structural material.

Earth – ground and bond all lines and equipment associated with product system. Electrical equipment should be nonsparking or explosion – proof. 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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