Precision Gas Products Inc.
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Hydrogen Sulfide in Nitrogen
0.1 ppm to 5 %

MATERIAL SAFETY DATA SHEET

Identification

Revision Date 01-01-09

Products Name: HYDROGEN SULFIDE IN NITROGEN 0.1PPM TO 5%
CAS Number: N/A
Chemical Family: Gas Mixture
Chemical formula: H2S in N2
MSDS identification Code/ Number: MSDS 105N

Composition/ Information on Ingredients

Ingredient Name		Concentration Percent by Weight
HYDROGEN SULFIDE CAS Number: 7783-06-4	**Exposure Limits** • ACGIH TLV-TWA: 10 ppm • ACGIH TLV-STEL: 15 ppm • OSHA Final PEL-TWA: 10 ppm • OSHA Final PEL-TWA: 15 ppm • OSHA Trans. PEL-Ceiling: 20 ppm • OSHA Trans. PEL-Peak: 50 ppm	< .0001 to 5.0
NITROGEN CAS Number: 7727-37-9	Simple Asphyxiant. Maintain oxygen levels above 19.5% ACGIH TLV-TWA:D	95.0 to 99.995

Hazard Identification

No data given

First Aid Measures

Eyes
Persons with potential exposure should not wear contact Lenses. Flush contaminated eyes with copious quantities of water. Part eyelids to assure complete flushing. Continue for 15minutes.

Skin
Flush affected areas with water. Remove contaminated clothing as rapidly as possible. Seek immediate medical attention.

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. 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- Gas

Lower Explosive Limit (%): 4
Upper Explosive Limit (%): 44

- Fire and Explosion Hazards: Hydrogen Sulfide is flammable in air over a wide range. Eliminate all sources of ignition. Increase ventilation to prevent explosion hazard. Keep aparatus away from areas where flammable gas may accumulate.

- Extinguishing Media: Water, carbon dioxide, dry chemical

- Fire Fighting Instructions: If possible, stop flow of gas; 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.
Stop the flow of gas using a valve in remote location if possible. Extinguish all ignition sources. Ventilate area to prevent buildup of toxic or flammable/explosive atmospheres.

Handling and Storage

- Handling and Storage Precautions

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 125°F. 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.
Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Close valve after each use and when the container is empty. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure-reducing regulator when connecting container to piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder.
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 above the exposure limits. A laboratory type hood is suitable for handling small or limited quantities.

Eye/Face Protection: Safety goggles or glasses.

Skin Protection: Protective gloves: neoprene, PVC, Butyl rubber, polyethylene.

Other/General Protection: Safety shoes, safety shower, eyewash fountain

Respiratory Protection: A Type C respirator with full-face piece equipped with an escape bottle or self-contained breathing apparatus should be available for emergency use, or when concentrations exceed exposure limits.

Physical & Chemical Properties

Appearance: A colorless gas, flammable gas or liquid.
Odor: A rotten egg odor.

Basic Physical Properties
Solubility (H20): Slight

Stability & Reactivity

Stability: Stable

Conditions to Avoid (Stability): Heat, spark and open flame and other ignition sources.

Incompatible Materials: Many metals corrode rapidly if exposed to hydrogen sulfide in "wet" atmosphere.

Hazardous Polymerization: Will not occur

Hazardous Decomposition Products: Oxides of sulfur

Toxicological Information

Eye Effects: Low concentrations of hydrogen sulfide will generally cause irritation to the conjunctiva. Repeated exposure to low concentrations is reported to cause conjunctivitis, photophobia, corneal bullae, tearing, pain and blurred vision.

Skin Effects: May irritate the skin upon contact.

Acute Oral Effects: Ingestion is considered unlikely. However, hydrogen sulfide will cause irritation of mucous membranes, causing a burning feeling with excess salivation likely. Irritation of the gastrointestinal tract may also occur.

Acute Inhalation Effects: Continuous exposure to low (15 to 50 ppm) concentrations of hydrogen sulfide will generally cause irritation to mucous membranes, and may also cause headache, dizziness or nausea. Olfactory fatigue or paralysis of smell is also possible; thus detection of hydrogen sulfide by its odor is not considered adequate. Higher concentrations (200 to 300 ppm) may result in respiratory arrest leading to coma or unconsciousness. Exposures for more than 30 minutes at concentrations greater than 700 ppm have been fatal.
Hydrogen sulfide should be regarded as highly toxic. Toxicologically, it reacts with enzymes in the bloodstream and inhibits cellular respiration resulting in pulmonary paralysis, sudden collapse and death.
Nitrogen is considered as a Simple Asphyxiant. The major hazard from exposure is the exclusion of an adequate supply of oxygen to the lungs.

Miscellaneous Toxicological Information
Carcinogenicity – NTP: No IARC: No OSHA: No

Medical Conditions Aggravated by Exposure: Blood Disorders

Ecological Information

Other Environmental Information
This product does NOT contain any ingredients which are regulated on the U.S. EPA List of Toxic Chemicals (40CFR 372), and is therefore not subject to release under Section 313 of EPCRA/SARA Title III.

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

H2S<4%
Proper Shipping Name: Compressed Gas, N.O.S., (Nitrogen, Hydrogen Sulfide)
Hazardous Class: 2.2
CT (DOT) Identification Number: UN 1956
CT (DOT) Shipping Label: Nonflammable gas

H2S>4%
Proper Shipping Name: Compressed Gas, N.O.S., (Nitrogen, Hydrogen Sulfide)
Hazardous Class: 2.1
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: Acute Health Hazard
Chronic Health Hazard
Fire Hazard
Sudden Release of Pressure Hazard

Other Information

Hazard Rating	Health:	4 Extreme
	Fire:	1 Slight
	Reactivity:	3 High

MSDS Identification Code/Number: MSDS 105N

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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