

Precision Gas Products Inc.

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Hydrogen in Air 0.0001% to 2.0%

MATERIAL SAFETY DATA SHEET

Identification

Revision Date 01-01-09

Products Name: HYDROGEN IN AIR 0.0001% TO 2.0%

CAS Number: N/A

Chemical Family: Gas Mixture

Chemical formula: H₂ in Air

MSDS identification Code/ Number: MSDS 149

Composition/ Information on Ingredients

Ingredient Name	Concentration Percent by Weight
HYDROGEN CAS Number: 1333-74-0	0.0001 to 2.0
Exposure Limits	
• Simple Asphyxiant – Maintain oxygen levels above 19.5%	
AIR	None
CAS Number: 25635-88-5	99.9999 to 98.0

Hazard Identification

No data given

First Aid Measures

Inhalation Exposure

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: None

Lower Explosive Limit (%): 4% (Hydrogen)

Upper Explosive Limit (%): 75% (Hydrogen)

- Extinguishing Media: Use any extinguishing media that is suitable for the surrounding fire. Use water spray to cool fire-exposed containers.
- Fire Fighting Instructions: If possible, stop flow of gas which is supporting the 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. For additional recommendations consult Compressed Gas Association Pamphlet P-1. Post “NO SMOKING” signs in the storage area 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

Ventilation: Use local exhaust

Eye/Face Protection: Safety goggles or glasses.

Skin Protection: Plastic or rubber gloves.

Respiratory Protection: Self-contained breathing apparatus should be available for emergency use.

Other/General Protection: Safety shoes

Physical & Chemical Properties

Appearance: A colorless gas.

Odor: Odorless

Solubility (H₂O): Slightly soluble

Vapor Pressure: Above critical temperature

Stability & Reactivity

Stability: Stable

Incompatible Materials: These mixtures are noncorrosive and may be used with all materials of concentration.

Hazardous Polymerization: Will not occur

Toxicological Information

These mixtures are nontoxic. They may act as a simple asphyxiant if released in a confined area and displace oxygen in the air to levels less than necessary to support life. Maintain oxygen levels above 19.5% at sea level.

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., (Air, Hydrogen)

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: Sudden Release of Pressure Hazard
Acute Health hazard

Other Information

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

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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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