

Precision Gas Products Inc.

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Three Part Mix, 5 to 100 ppm Hydrogen Sulfide, 0.0001% to 0.75% Pentane, 2% to 23% Oxygen in Nitrogen Balance Gas

MATERIAL SAFETY DATA SHEET

Identification

Revision Date 01-01-09

Products Name: 5 to 100 PPM Hydrogen Sulfide, 0.0001% to 0.75% Pentane, Oxygen 2% to 23% in Nitrogen

CAS Number: N/A

Chemical Family: Gas Mixture

Chemical formula: H₂S, C₅H₁₂, O₂ in N₂

Synonyms: Calibration Gas, Bump Gas, Cal Gas Mixture, Three Part Mix

MSDS identification Code/ Number: MSDS 105MX156

Composition/ Information on Ingredients

Ingredient Name	Exposure Limits	Concentration Percent by Weight
Hydrogen Sulfide CAS Number 7783-06-4	ACGIH TWA: 10 PPM ACIH STEL: 15 PPM OSHA PEL Ceiling: 20 PPM	0.0005% to 0.01% 5ppm to 100ppm
Pentane CAS Number 0109-66-0	ACGIH TWA: 600 PPM ACGIH STEL: 750 PPM OSHA TWA: 1000 PPM Canada TWA: 600 PPM Canada STEL: 750 PPM	0.0001% to 0.75%
Oxygen CAS Number 7782-44-7	None	2.0% to 23%
Nitrogen CAS Number 7727-37-9	None Simple asphyxiant. Maintain oxygen levels above 19.5% at sea level.	76.2% to 98.0%

Hazard Identification

No data given

First Aid Measures

Eyes: *Person with potential exposure to Hydrogen Sulfide should not wear contact lenses.* In case of eye contact, immediately flush with low pressure, cool water for at least 15 minutes, opening eyelids to ensure flushing. Get immediate medical attention.

Skin: Flush affected area with copious quantities of water. Remove contaminated clothing as rapidly as possible.

Ingestion: Treat in a manner similar to inhalation exposure. Seek medical attention as soon as possible.

Inhalation Exposure: Prompt medical attention is mandatory in all cases of overexposure. Rescue personnel should be equipped with self – contained breathing apparatus. Quick removal from the contaminated area is most important. Conscious persons should be moved to an uncontaminated area and inhale fresh air. Unconscious persons should be moved to an uncontaminated area, given artificial resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive. Keep the victim warm and calm.

Fire Fighting Measures

Flammable Properties

Flash Point: N/A Gas

	Hydrogen Sulfide	Pentane
Lower Explosive Limit (%)	4	1.5
Upper Explosive Limit (%)	74.5	7.8

- Fire and Explosion Hazards: None
- Extinguishing Media: Use any extinguishing media suitable for the surrounding fire. Use water spray to cool fire-exposed container.
- Fire Fighting Instructions: If possible, stop the flow of gas that is supporting the fire.
- Electrical Classification: Nonhazardous

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

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.

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.

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 Control: Use local exhaust to reduce concentrations to within current 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, butyl rubber, PVC, polyethylene

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.

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

Physical & Chemical Properties

- Appearance: A colorless, nonflammable gas.
- Boiling Point: -317.8°F -194.3°C
- Odor: A rotten egg odor
- Vapor Pressure: Above critical temperature.
- Vapor Density (Air=1): Not determined
- Solubility (H₂O): Slightly.

Regulatory Information

SARA Title III – Hazard Class: Acute Health Hazard
Sudden Release of Pressure Hazard
Fire Hazard
Chronic Health Hazard

Other Information

Hazard Ratings: Health: 4
 Fire: 0
 Reactivity: 3
 Special: None

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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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