

Precision Gas Products Inc.

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Four Part Mix, 0.001-0.025% Hydrogen Sulfide, 0-0.48% Hexane, 0.0005-1.0% Carbon Monoxide, 0.0015-23.5% Oxygen in Nitrogen Balance Gas

MATERIAL SAFETY DATA SHEET

Identification

Revision Date 01-01-15

PRODUCT NAME: MULTI-MIX

CHEMICAL NAME: Hexane, Carbon Monoxide, Hydrogen Sulfide, Oxygen in Nitrogen

COMMON NAMES/ SYNONYMS: None

TDG (Canada) CLASSIFICATION: 2.2

WHIMIS CLASSIFICATION: A

MSDS identification Code/ Number: MSDS 105MX120

Composition/ Information on Ingredients

INGREDIENT	%VOLUME	PEL-OSHA	TLV-ACGIH	LD ₅₀ or LC ₅₀ Route/Species
Hexane FORMULA: C ₆ H ₁₄	0 to 0.48%	500 ppm TWA	50 ppm	N/A
Carbon Monoxide FORMULA: CO	0.0005 to 1.0%	50 ppm	25 ppm	1811 ppm/ 4 hours (rat)
Hydrogen Sulfide FORMULA: H ₂ S	0.001 to 0.025%	20 ppm	10 ppm	444 ppm (rat)
Oxygen FORMULA: O ₂	0.0015 to 23.5%	N/A	N/A	N/A
Nitrogen FORMULA: N ₂	Balance	Simple Asphyxiate	Simple Asphyxiate	N/A

Hazard Identification

EMERGENCY OVERVIEW

This product is a colorless gas, which has a rotten-egg odor. The odor cannot be relied on as an adequate warning of the presence of this product, because olfactory fatigue occurs after over-exposure to hydrogen sulfide. Hydrogen sulfide and carbon monoxide are toxic to humans in relatively low concentrations. Over-exposure can cause skin or eye irritation, nausea, dizziness, headaches, collapse, unconsciousness, coma, and death.

ROUTE OF ENTRY:

Skin Contact
Yes

Skin Absorption
No

Eye Contact
Yes

Inhalation
Yes

Ingestion
No

HEALTH EFFECTS:

Exposure Limits
Yes

Irritant
Yes

Sensitization
No

Reproductive Hazard
Yes

Mutagen
No

Carcinogenicity: --NTP: No

IARC: No

OSHA: No

EYE EFFECTS:

Hydrogen sulfide can cause eyes to become scratchy, irritated and even teary. Above 50 ppm of hydrogen sulfide, there is an intense tearing blurring of vision, and pain when looking at light.

SKIN EFFECTS:

Over-exposure to carbon monoxide can be indicated by the lips and fingernails turning bright red. High concentrations of hydrogen sulfide may also be irritating to the skin.

INGESTION EFFECTS:

Ingestion unlikely. Gas at room temperature.

INHALATION EFFECTS:

Due to the small size of this cylinder, no unusual health effects from over-exposure are anticipated under routine circumstances of use. Over-exposure to hydrogen sulfide can cause dizziness, headache, and nausea. At 12- 16% Oxygen, breathing and pulse rate is increased, muscular coordination is slightly disturbed.

NFPA HAZARD CODES		HMIS HAZARD CODES		RATING SYSTEM
Health:	3	Health:	3	0= No Hazard
Flammability:	0	Flammability:	0	1= Slight Hazard
Reactivity:	0	Reactivity:	0	2= Moderate Hazard
				3= Serious Hazard
				4= Severe Hazard

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 a minimum of 15 minutes. Seek immediate medical attention.

SKIN: Remove contaminated clothing as rapidly as possible. Flush affected area with copious quantities of water. Seek immediate medical attention.

INGESTION: Not required

INHALATION: PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH THE 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

These containers hold gas under pressure, with no liquid phase. If involved in a major fire, they should be sprayed with water to avoid pressure increases, otherwise pressures will rise and ultimately they may distort or burst to release the contents. The gases will not add significantly to the fire, but containers or fragments may be projected considerable distances - thereby hampering fire fighting efforts.

Accidental Release Measures

In terms of weight, these containers hold very little contents, such that any accidental release by puncturing etc. will be of no practical concern.

Handling and Storage

Suck back of water into the container must be prevented. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Use only in well-ventilated areas. Do not heat cylinder by any means to increase rate of product from the cylinder. Do not allow the temperature where cylinders are stored to exceed 130°F (54°C).

Exposure Controls/Personal Protection

Use adequate ventilation for extended use of gas.

Physical & Chemical Properties

PARAMETER	VALUE
Physical state	Gas
Evaporation point	N/A
pH	N/A
Odor and appearance	Colorless gas with a rotten-egg odor

Stability & Reactivity

Stable under normal conditions. Expected shelf life 12 months.

Toxicological Information

This gas mixture contains components that may cause embryotoxic effects in humans; however, due to the small size of the cylinder no toxicological damage is anticipated.

Ecological Information

No ecological damage caused by this product.

Disposal Considerations

Do not discharge into any place where its accumulation could be dangerous. Used containers are acceptable for disposal in the normal waste stream as long as the cylinder is empty and valve removed or cylinder wall is punctured; but GASCO encourages the consumer to return cylinders.

Transport Information

<u>PROPER SHIPPING NAME:</u>	<u>United States DOT</u> Compressed Gas N.O.S. (Hydrogen Sulfide, Nitrogen)	<u>Canada TDG</u> Compressed Gas N.O.S. (Hydrogen Sulfide, Nitrogen)
<u>HAZARD CLASS:</u>	2.2	2.2
<u>IDENTIFICATION NUMBER:</u>	UN1956	UN1956
<u>SHIPPING LABEL:</u>	NONFLAMMABLE GAS	NONFLAMMABLE GAS

Regulatory Information

The components of this product are listed under the accident prevention provisions of section 112(r) of the Clean Air Act (CAA) with a threshold quantity (TQ) of 10,000 pounds each.

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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