

# Intermountain Specialty Gases

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## MATERIAL SAFETY DATA SHEET

Page 1

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### 1. CHEMICAL PRODUCT

PRODUCT NAME: Hydrogen Sulfide/Carbon Monoxide/Methane /Oxygen/Nitrogen

SYNONYMS: Quad Gas

### 2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient Name	Formula	CAS#	Concentration	TLV
Hydrogen Sulfide	H <sub>2</sub> S	7783-06-4	10-100 PPM	10 PPM TWA
Carbon Monoxide	CO	0630-08-0	35-300 PPM	25 PPM TWA
Methane	CH <sub>4</sub>	74-84-8	0.5-2.5%	S/A
Oxygen	O <sub>2</sub>	7782-44-7	12.0-21%	N/A
Nitrogen	N <sub>2</sub>	7727-37-9	Balance	S/A

### 3. HAZARD IDENTIFICATION

**POTENTIAL HEALTH EFFECTS:** This product is a colorless gas, which has a rotten-egg odor. Do not rely on smell to detect hydrogen sulfide because of olfactory fatigue. Hydrogen Sulfide and carbon monoxide are toxic to humans in relatively low concentrations. Over-exposure can cause headache, dizziness, heart palpitations, nausea, unconsciousness, coma and death.

**ROUTES OF ENTRY:** Inhalation, Skin, Eye

**HEALTH EFFECTS:** Exposure Limits-yes Irritant-yes Reproductive Hazard-yes

**OTHER EFFECTS OF OVEREXPOSURE:** Contact with rapidly expanding gas near the point of release may cause frostbite.

**OSHA Regulatory Status:** This material is classified as hazardous under OSHA regulations.

**Carcinogenicity (US Only):**

NTP – No

IARC MONOGRAPHS - No

OSHA REGULATED – No

#### NFPA Hazard Codes:

Health: 4  
Flammability: 0  
Instability: 0

#### HMIS Hazard Codes:

Health: 4  
Flammability: 0  
Physical Hazard: 3

#### Rating System

0 = No Hazard  
1 = Slight Hazard  
2 = Moderate Hazard  
3 = Serious Hazard  
4 = Severe Hazard

#### **4. First Aid Measures**

Inhalation: Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.

Eye Contact: Immediately flush with copious amounts of water for at least 15 minutes.

Skin contact: Immediately flush with copious amount of water for at least 15 minutes.

Ingestion: None

#### **5. Fire Fighting Measures**

Flash Point: N/Ap Gas

Autoignition Temperature: N/Ap

Flammable Limits: Nonflammable Gas

Lower:

Upper:

Extinguishing Media: Use what is appropriate for surrounding fire.

Special Fire fighting Instruction and Equipment: Wear self-contained breathing apparatus and full protective clothing. Keep fire from exposed cylinders and cool with water spray, If possible, stop the product flow.

Hazardous Combustion Products: None

Unusual Fire and Explosion Hazards: Cylinder rupture may occur under fire conditions.

#### **6. Accidental Release Measures**

Clean Up Procedures: Evacuate and ventilate area. Remove leaking cylinder to exhaust hood or safe outdoor area. Shut off cylinder if possible.

Specialized Equipment: None

#### **7. Handling and Storage**

Precautions To Be Taken In Handling: Secure cylinder when using to protect from falling.

Precautions To Be Taken In Storage: Protect cylinders from physical damage. Store in cool, dry, well ventilated area. Do not allow the temperature where cylinders are stored to exceed 125 degrees F.

## 8. Exposure Controls/Personal Protection

Engineering Controls: Provide adequate general and local exhaust ventilation to maintain concentrations below exposure limits and to avoid asphyxiation.

Eye/Face Protection: Safety goggles or glasses as appropriate for the job.

Skin Protection: Protective gloves of material appropriate for the job.

Respiratory Protection: In case of leakage, use of self-contained breathing apparatus should be available for emergency use.

Other Protective Equipment: Safety Shoes

## 9. Physical And Chemical Properties

Appearance: Colorless

Odor: rotten egg

Physical State: Gas

Vapor Pressure: N/Ap

Vapor Density (Air = 1): 1.00

Boiling Point ( C ): N/Ap

Solubility In Water: Slightly

Specific Gravity (H<sub>2</sub>O-1): Gas

Evaporation Rate: Gas

Odor Threshold: N/A

## 10. Stability and Reactivity

Stability: Stable under normal storage conditions.

Conditions To Avoid: Storage in poorly ventilated areas. Storage near a heat source.

Hazardous Polymerization: Will not occur.

Hazardous Decomposition: none

## 11. Toxicological Information

Due to small size of the cylinder no toxicological damage is anticipated

## 12. Ecological Information

Product does not contain Class I or Class II ozone depleting substances. Not toxic. Not expected to be toxic to fish and wildlife. .

### **13. Disposal Considerations**

Waste Disposal Method: Dispose of non-refillable cylinders in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood, or return to Intermountain Specialty Gases.

### **14. Transport Information**

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

Hazard Class: 2.2

Identification Number: UN 1956

Shipping Label: Nonflammable Gas

### **15. Regulatory information**

SARA Title III Notifications and Information: This product contains hydrogen sulfide which is listed under SARA 313 with a concentration 1%; under SARA 304, CERCLA with a reportable quantity of 100 pounds, and is a SARA 302, Extremely Hazardous Substance with a Threshold Planning Quantity of 500 pounds.

SARA Title III – Hazard classes:

Acute Health Hazard

Chronic Health Hazard

California Proposition 65:

This product contains carbon monoxide, which the state of California has listed as having developmental toxicity.

### **16. Other Information**

Other Precautions: Protect containers from physical damage. Do not deface cylinders or labels.

Abbreviations:

N/Ap – Not Applicable

N/Av – Not Available

SA – Simple Asphyxiant

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