

Intermountain Specialty Gases

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MATERIAL SAFETY DATA SHEET

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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	H2S	7783-06-4	10-100 PPM	10 PPM TWA
Carbon Monoxide	CO	0630-08-0	35-300 PPM	25 PPM TWA
Methane	Ch4	74-84-8	0.5-2.5%	S/A
Oxygen	O2	7782-44-7	12.0-21%	N/A
Nitrogen	N2	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 (H₂O-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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