

**MATERIAL SAFETY DATA SHEET**

Five Part Reactive Gas Mixture



File No.: 1002

**Five Part Reactive Gas Mixture:**  
Hydrogen Sulfide / Carbon Monoxide / Methane / Oxygen / Nitrogen

**1. Chemical Product and Company Identification**

**SpecAir Specialty Gases, Chemicals & Technology**  
22 Albiston Way  
Auburn, ME  
04210

TELEPHONE NUMBER: 800-292-6218  
FAX NUMBER: 207-777-6215  
E-MAIL: [info@SpecAir.com](mailto:info@SpecAir.com)

24-HOUR EMERGENCY NUMBER: 1-800-535-5053

PRODUCT NAME: Five Part Reactive Gas Mixture  
CHEMICAL NAME: Methane, Carbon Monoxide, Hydrogen Sulfide, Oxygen in Nitrogen  
COMMON NAMES/ SYNONYMS: None  
TDG (Canada) CLASSIFICATION: 2.2  
WHIMIS CLASSIFICATION: A

**2. Composition / Information on Ingredients**

	% VOLUME	PEL-OSHA2	TLV-ACGIH3	LD50 OR LC50 Route/Species
Hydrogen Sulfide Formula: H <sub>2</sub> S CAS: 7783-06-4 RTECS#: MX1225000	0.0005% to 0.01% 5 PPM to 100 PPM	20 PPM Ceiling Concentration	10 PPM TWA 15 PPM STEL	LC50 712 PPM Inhalation/Rat 1 Hr.
Methane Formula: CH <sub>4</sub> CAS: 0074-82-8 RTECS#: TX2275000	0.0001% to 2.5%	None Established	None Established Simple Asphyxiant	Not Available
Carbon Monoxide Formula: CO CAS: 0630-08-0 RTECS#: FG3500000	0.0001% to 0.1%	TWA 50 PPM	25 PPM TWA	LC50 1807 PPM / 4 Hr. (Rat)
Oxygen Formula: O <sub>2</sub> CAS: 7782-44-7 RTECS#: RS206000	2.0% to 23%	None	None	Not Available
Nitrogen Formula: N <sub>2</sub> CAS: 7727-37-9 RTECS#: QW9700000	74.39% to 98.0%	None Established	None Established Simple Asphyxiant	Not Available

**3. HAZARDS 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	Skin Absorption	Eye Contact	Inhalation	Ingestion
Yes	No	Yes	Yes	No

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**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**

Health:	4
Flammability:	0
Reactivity:	0

**HMIS Hazard Codes**

Health:	4
Flammability:	0
Reactivity:	0

**Rating System**

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

**4. 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:**

Contact Poison Control. Seek Medical Attention

**INHALATION:**

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

**5. 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 firefighting efforts.

**6. 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.

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## 7. HANDLING AND STORAGE

Suck back of water into the container must be prevented. Do not allow back feed 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).

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Use adequate ventilation for extended use of gas.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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

## 10. STABILITY AND REACTIVITY

Stable under normal conditions. Expected shelf life 12 months.

## 11. TOXICOLOGICAL INFORMATION

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

## 12. ECOLOGICAL INFORMATION

No ecological damage is expected to be caused by this product.

## 13. DISPOSAL INFORMATION

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 SpecAir Specialty Gases encourages the consumer to return cylinders back to manufacturer.

## 14. TRANSPORT INFORMATION

	<u>United States DOT</u>	<u>Canada TDG</u>
<b>Proper Shipping Name:</b>	Compressed Gas N.O.S. (Hydrogen Sulfide, Nitrogen)	Compressed Gas N.O.S. (Hydrogen Sulfide, Nitrogen)
<b>Hazard Class:</b>	2.2	2.2
<b>Identification Number:</b>	UN1956	UN1956
<b>Shipping Label:</b>	Non-Flammable Gas	Non-Flammable Gas

## 15. 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.

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**16. OTHER INFORMATION**

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This MSDS has been prepared in accordance with the Chemicals (Hazard Information and Packaging for Supply (Amendment) Regulation 1996. The information is based on the best knowledge of SpecAir Specialty Gases and its advisors and is given in good faith, but we cannot guarantee its accuracy, reliability or completeness and therefore disclaim any liability for loss or damage arising out of use of this data. Since conditions of use are outside the control of the Company and its advisors we disclaim any liability for loss or damage when the product is used for other purposes than it is intended.

