



MATERIAL SAFETY DATA SHEET - CALIBRATION CHECK GAS

**PRODUCT NAME: METHANE (0- 2.5%), CARBON MONOXIDE (0.0005- 1.0%),
SULFUR DIOXIDE (0.0001- 0.1%, OXYGEN (0.0015- 23.5%), BALANCE NITROGEN**

MSDS NO: 433

Version:3

Date: January, 2009

1. Chemical Product and Company Identification

Gasco Affiliates, LLC
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PRODUCT NAME: MULTI-MIX

CHEMICAL NAME: Methane, Carbon Monoxide, Sulfur Dioxide, Oxygen in Nitrogen

COMMON NAMES/ SYNONYMS: None

TDG (Canada) CLASSIFICATION: 2.2

WHIMIS CLASSIFICATION: A

2. COMPOSITION/ INFORMATION ON INGREDIENTS

| INGREDIENT | %VOLUME | PEL-OSHA | TLV-ACGIH | LD ₅₀ or LC ₅₀ Route/Species |
|--|--------------------|-------------------|-------------------------|---|
| Methane FORMULA: CH ₄ | 0 to 2.5% | Simple Asphixiate | Simple Asphixiate | N/A |
| Carbon Monoxide FORMULA: CO | 0.0005 to 1.0% | 50 ppm | 25 ppm | 1811 ppm/ 4 hours (rat) |
| Sulfur Dioxide FORMULA: SO ₂ | 0.0001 to 0.1% | 5 ppm | 2 ppm TWA 5 ppm STEL | LC ₅₀ 2520 ppm/1H (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 |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Colorless gas with highly irritating odor which may cause eye, skin, and respiratory irritation. Sulfur dioxide can adversely affect the lungs causing increased airway resistance and possible pulmonary edema. Use only with adequate ventilation. Contents under pressure. Avoid heat and flames. Protect containers from physical damage.



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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 Yes |
|------------------------|-----------------|---------------------|----------------------------|----------------|

Carcinogenicity: --NTP: No IARC: No OSHA: No

EYE EFFECTS:

Contact may cause eye irritation with associated redness, swelling, and tears.

SKIN EFFECTS:

Over-exposure to carbon monoxide can be indicated by the lips and fingernails turning bright red. High concentrations of Sulfur Dioxide 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: | 2 |
| Flammability: | 0 |
| Reactivity: | 0 |

HMIS HAZARD CODES

| | |
|---------------|---|
| Health: | 2 |
| 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:

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.



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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 fire fighting 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.

7. 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).

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 slight pungent odor |

10. STABILITY AND REACTIVITY

Stable under normal conditions. Expected shelf life 12 months.

11. TOXICOLOGICAL INFORMATION

Sulfur dioxide is an irritant at 8 to 12 ppm with conjunctival irritation and lacrimation. Irritation becomes severe at 50 ppm.

The minimum lethal human exposure for sulfur dioxide is 400 ppm for 1 minute. At 5 ppm sulfur dioxide causes dryness of the nose and throat and increased resistance to bronchial air flow. From 6 to 8 ppm a decrease in tidal respiratory volume occurs. Exposure to 20 ppm sulfur dioxide caused bronchospasm and 50 ppm causes extreme discomfort with no injury for exposures less than 30 minutes.

12. ECOLOGICAL INFORMATION

No ecological damage caused by this product.



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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 GASCO encourages the consumer to return cylinders.

14. TRANSPORT INFORMATION

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

16. OTHER INFORMATION

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 GASCO, 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.

MSDS/S010/433/January, 2009