MATERIAL SAFETY DATA SHEET
29 CFR 1910.1200 OSHA Hazard
Communication Rule Format
Chem-Tel 24 Hour Emergency # 1-800-255-3924

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This product contains hydrogen sulfide and nitrogen, substances subject to the Pennsylvania Worker and Community Right-To-Know Act.

PRODUCT IDENTITY

LABEL IDENTITY - MSA P/N 10089547 Calibration Check Gas, 250 ppm Hydrogen Sulfide in Nitrogen

CHEMICAL NAME - Hydrogen Sulfide, Nitrogen Mixture

ADDITIONAL IDENTITIES - MSA P/N 10089547 Calibration Gas

FORMULA - H_2S in N_2

APPLICABLE CHEMICAL CONTENTS

	ppm	TWA	STEL
Hydrogen Sulfide (CAS 7783-06-4)	250	1 ppm	5ppm
Nitrogen (CAS 7727-37-9)	Balance	None	

NOTE: Gas Under Pressure, 500 PSIG at 70°F Approx. 58 Liters Gas at Atmospheric Pressure

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR - Colorless gas with a strong odor of rotten eggs. [Note: Sense of smell becomes rapidly fatigued and can NOT be relied upon to warn of the continuous presence of H_2S.]

Following information is for Nitrogen the main component of this gas mixture

BOILING POINT - -320.4°F (-195.8 ° C) SPECIFIC GRAVITY **(air = 1) @70°F (21.1 °C):** 0.906

VAPOR PRESSURE **@70°F (21.1 °C):** N/A* PERCENT VOLATILE BY VOLUME - N/A*

GAS DENSITY **@32°F (0 °C) and 1 atm:** 0.072 lbs/ft^3 (1.153 kg/ $m^{3)}$

VAPOR DENSITY (AIR = 1) - 1

SOLUBILITY IN WATER - H_2S - 437 cm^3/100 ml (0°C)
Nitrogen - 2.3 cm^3/100 ml (0°C)

N/A - Not Applicable

PHYSICAL HAZARD INFORMATION

PHYSICAL HAZARD - Compressed Gas, 500 PSIG at 70°F

CONDITIONS OR MATERIALS TO AVOID – Hydrogen sulfide incompatible with strong oxidizers. Hydrogen is corrosive to most metals forming metal sulfides.

FLASH POINT - N/A LEL N/A UEL - N/A

EXTINGUISHING MEDIA - This calibration gas mixture is nonflammable.

SPECIAL FIRE FIGHTING PROCEDURES - See next item.

UNUSUAL FIRE AND EXPLOSION HAZARDS - Gas under pressure, 500 PSIG at 70°F. Do not exceed 120°F.

HEALTH HAZARDS

HEALTH HAZARDS –

- Hydrogen Sulfide: LC_{LO} (human inhalation) 800 ppm/5 minutes (H_2S).
    - 0.3-30 ppm unpleasant odor.
    - 50 ppm irritation of the respiratory system.
    - 100-150 ppm Temporary loss of smell.
    - 200-250 ppm Headache, vomiting nausea. Prolonged exposure may lead to lung damage. Exposures of 4-8 hours can be fatal.
- Nitrogen is an asphyxiant.

Note: this gas mixture contains 250 ppm hydrogen sulfide. Additionally, because this gas mixture contains less than 19.5% oxygen if this mixture is released in a small poorly ventilated area (confined space) an oxygen deficient environment may occur.

SIGNS AND SYMPTOMS OF EXPOSURE - H_2S is an irritant of the eyes and respiratory tract.
Oxygen deficient atmosphere: Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in the ears, dizziness, drowsiness, unconsciousness, nausea, vomiting and depression of all the senses. Under some circumstances of over-exposure, death may occur.

PRIMARY ROUTES OF ENTRY - Inhalation, skin and eyes

TARGET ORGANS - H_2S is an irritant of the eyes, skin and respiratory tract.

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE – Pre-existing respiratory conditions may be aggravated by over-exposure to this gas mixture. Over exposure to hydrogen sulfide may also aggravated eye disorders and skin problems.

EXPOSURE LIMITS - ACGIH 2010: Hydrogen sulfide TWA 1 ppm, STEL 5 ppm

CARCINOGENICITY DATA - Component gases are not listed by NIOSH RTECS, OSHA, NTP or IARC.

EMERGENCY AND FIRST AID PROCEDURES - Remove from exposure administer oxygen if necessary.

SAFE HANDLING AND USE

HYGIENIC PRACTICES - Avoid breathing gas

PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT - N/A

PROCEDURES FOR SPILL OR LEAK CLEANUP - Ventilate area.

WASTE DISPOSAL - Do not puncture or incinerate cylinder. Before discarding cylinder, slowly release contents to a safe exhaust.
STORAGE - Store in a cool, dry, well-ventilated area. Do not exceed 120°F.

CONTROL MEASURES

PERSONAL PROTECTIVE EQUIPMENT - Due to the limited amount of gas in the cylinder, and the low release rate employed in instrument calibration, respiratory protection is not indicated under conditions of intended use.

ENGINEERING CONTROLS - Mechanical ventilation is suitable.

WORK PRACTICES - Avoid breathing gas. Use in well-ventilated areas. Follow the calibration procedure detailed in the MSA instruction manual provided with the instrument under calibration.

DATE OF PREPARATION - Rev. 2 , October 2010