

This product contains sulfur dioxide, oxygen and nitrogen, substances subject to the Pennsylvania Worker and Community Right-To-Know Act.

PRODUCT IDENTITY

LABEL IDENTITY - MSA P/N 808978 Calibration Check Gas, 10 ppm Sulfur Dioxide in Air
CHEMICAL NAME - Sulfur Dioxide, Oxygen, Nitrogen Mixture
ADDITIONAL IDENTITIES - MSA P/N 808978 Calibration Gas
FORMULA - $SO_2 + N_2 + O_2$

APPLICABLE CHEMICAL CONTENTS

	<u>%</u>	<u>TWA</u>	<u>STEL</u>
Sulfur Dioxide (CAS 7446-09-5)(ACGIH 2013)	0.0010	----- ppm	0.25ppm
Air	Balance	none	

NOTE: Gas Under Pressure, 500 PSIG at 70°F, and Approx. 58 liters gas at atmospheric pressure

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR - Colorless, malodorous gas

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/ft³ (1.153 kg/ m³)

SOLUBILITY IN WATER - Sulfur Dioxide - 22.8 grams/100 ml (0°C)
Oxygen - 3.2 cm³/100 ml (25°C)
Nitrogen - 2.3 cm³/100 ml (0°C)

N/A* - Not Applicable

PHYSICAL HAZARD INFORMATION

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

CONDITIONS OR MATERIALS TO AVOID - None

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

EXTINGUISHING MEDIA – This calibration gas mixture is not flammable.

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 - Refer to RTECS for mutation, reproductive and carcinogenic references. Sulfur dioxide is an irritant of the mucous membranes, skin and eyes. In rabbits 6 ppm/4 hours/32 days produces mild eye irritation. INH-Human LC_{LO} = 1000 ppm/10 minutes. INH-Human LC_{LO} = 3000 ppm/5 minutes. INH-Mouse LC_{LO} = 6000 ppm/5 hour. INH-Human TC_{LO} = 3 ppm/5 days. INH-Mouse LC₅₀ = 3000 ppm/30 minutes. INH-Human TC_{LO} = 4 ppm/1 minute. INH-Guinea pig LC_{LO} = 1039 ppm/24 hour. INH-Human TC_{LO} = 12 ppm/1 hour

SIGNS AND SYMPTOMS OF EXPOSURE - Irritation of throat, nose and eyes; choking; cough.

PRIMARY ROUTES OF ENTRY - Inhalation, eyes

TARGET ORGANS - Mucous membranes, eyes, skin

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE: Individuals with asthma reportedly demonstrate enhanced sensitivity to sulfur dioxide exposure.

EXPOSURE LIMITS - ACGIH 2013; STEL 0.25 ppm;

CARCINOGENICITY DATA - NIOSH, RTECS, OSHA, NTP or IARC does not list component gases.

EMERGENCY AND FIRST AID PROCEDURES - The contents of P/N 808978 Calibration Check Gas (58 liters of 10 ppm SO₂ in Air). Sulfur Dioxide is a highly toxic and irritating gas (Human LC_{LO} 200 ppm/1 minute) the small quantity available from a calibration cylinder (58 liters of 10 ppm Sulfur Dioxide in air or approx. 1.5 milligram Sulfur Dioxide) is insufficient to sustain a material volume above the STEL if accidentally released to ambient air. Content of one cylinder diluted by 23.7 cubic meter of ambient air (equivalent to a room size of 10 x 12 x7) would yield 0.02 ppm Sulfur Dioxide.

In case of exposure Remove from exposure. If breathing has stopped, give artificial respiration. Administer oxygen. Consult a physician immediately

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/incinerate cylinder. Before discarding cylinder, slowly release contents to a safe exhaust. Dispose of cylinder in accordance with local, state and federal regulations

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. 8, November 2013

WARNING: This is a hazardous chemical product. By following the directions and warnings provided with this product, the hazards associated with the use of this product can be greatly reduced but never entirely eliminated. Mine Safety Appliances Company makes no warranties, expressed or implied, with respect to this product and EXPRESSLY DISCLAIMS THE WARRANTY OF MERCHANTABILITY AND ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. Users assume all risks in handling, using or storing this product.