

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

PRODUCT IDENTITY

LABEL IDENTITY - MSA P/N 459946 Calibration Check Gas, 0.8% Hydrogen in Air
CHEMICAL NAME - Hydrogen, Oxygen, Nitrogen Mixture
ADDITIONAL IDENTITIES - MSA P/N 459946 Calibration Gas
FORMULA - $H_2 + O_2 + N_2$

APPLICABLE CHEMICAL CONTENTS

	<u>%</u>	<u>TWA</u>
Hydrogen (CAS 1333-74-0)	0.8	None*
Air	Balance	None

*Hydrogen is a simple asphyxiant (ACGIH 2010)

NOTE: Gas Under Pressure, 400 PSIG at 70°F, Approx. 27 Liters Gas at Atmospheric Pressure

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR - Colorless, odorless 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)
VAPOR DENSITY (AIR = 1) - Approx. 1
SOLUBILITY IN WATER - Hydrogen - 1.91 cm³/100 ml (25°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, 400 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, 400 PSIG at 70°F. Do Not Exceed 120°F.

HEALTH HAZARDS

HEALTH HAZARDS - None known for 0.8% Hydrogen in air. Hydrogen is a simple asphyxiant (ACGIH 2010).

SIGNS AND SYMPTOMS OF EXPOSURE - N/A

PRIMARY ROUTES OF ENTRY - Inhalation

TARGET ORGANS - N/A

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE - No Information

EXPOSURE LIMITS - None (ACGIH 2010). Hydrogen is a simple asphyxiant.

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

EMERGENCY AND FIRST AID PROCEDURES – Remove From Exposure. Administer Oxygen. Consult 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. Avoid Breathing Gas.

WASTE DISPOSAL - Do not puncture or 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. 11, October 2010

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.