

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

**MINE SAFETY APPLIANCES COMPANY**  
**P.O. Box 426**  
**Pittsburgh, PA 15230**  
**PHONE (412) 967-3000**

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

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**PRODUCT IDENTITY**

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LABEL IDENTITY - MSA P/N 806740 Calibration Check Gas, 10 ppm Chlorine in Nitrogen  
 CHEMICAL NAME - Chlorine Nitrogen Mixture  
 ADDITIONAL IDENTITIES - MSA P/N 806740 Calibration Gas  
 FORMULA -  $\text{Cl}_2 + \text{N}_2$

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**APPLICABLE CHEMICAL CONTENTS**

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	<u>ppm</u>	<u>TWA</u>	<u>STEL</u>	<u>OSHA PEL</u>
Chlorine (CAS 7782-50-5) (ACGIH 2010)	10 ppm	0.5ppm	1 ppm	1 ppm Ceiling
Nitrogen (CAS 7727-37-9)	Balance	None		

NOTE: Gas under pressure, 500 PSIG at 70°F, Approx. 58 Liters gas at atmospheric pressure.

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**PHYSICAL AND CHEMICAL PROPERTIES**

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APPEARANCE AND ODOR - Colorless, (10ppm) m Characteristic acidic type odor.  
 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<sup>3</sup> (1.153 kg/ m<sup>3</sup>)  
 VAPOR DENSITY (AIR = 1) - Approx. 1  
 SOLUBILITY IN WATER -  
     Chlorine -           461 cm<sup>3</sup>/100 ml (0°C)  
     Nitrogen -          2.3 cm<sup>3</sup>/100 ml (0°C)

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**PHYSICAL HAZARD INFORMATION**

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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 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.

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**HEALTH HAZARDS**


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**HEALTH HAZARDS -**

- Chlorine is an irritant to mucous membranes, eyes and skin. It is toxic and corrosive LC<sub>10</sub> Human- 500ppm/5M, LC<sub>50</sub> Rat- 293 ppm/1H, LC<sub>50</sub> Mouse-137 ppm/1H, LC<sub>10</sub> Dog-800ppm/30M.
- Nitrogen is an asphyxiant.

Note: this gas mixture contains 10 ppm chlorine. 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 –****Reported responses to chlorine gas;**

Concentration	Observation
0.02-0.2 ppm	Odor threshold
0.2-16ppm	Mild mucous membrane irritation
7-8 ppm	Eye irritation
15 ppm	Throat irritation
30 ppm	Cough
1000 ppm	Fatal after a few breaths

- 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, eyes, skin

**TARGET ORGANS –**

Respiratory tract, eyes, mucous membranes

**MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE –** Pre-existing respiratory conditions may be aggravated by over-exposure to this gas mixture.

**EXPOSURE LIMITS – (ACGIH 2010):** Chlorine 0.5 ppm, STEL 1.0 ppm; OSHA PEL 1 ppm ceiling.

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

**EMERGENCY AND FIRST AID PROCEDURES -** Remove From Exposure

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**SAFE HANDLING AND USE**


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**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. 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.

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**CONTROL MEASURES**


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**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, 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.