

**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**  
**1000 Cranberry Woods Drive**  
**Cranberry Township, PA 16066**  
**PHONE (724) 776-8900**

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 10150612 Calibration Check Gas, 10 ppm Chlorine in Nitrogen

CHEMICAL NAME - Chlorine, Nitrogen Mixture

ADDITIONAL IDENTITIES - MSA P/N 10150612 Calibration Gas

FORMULA -  $\text{Cl}_2$  in  $\text{N}_2$

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**APPLICABLE CHEMICAL CONTENTS**

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	<u>%</u>	<u>TWA</u>	<u>STEL</u>	<u>OSHA: PEL</u>
Chlorine (CAS 7782-50-5)(ACGIH 2013)	0.001	0.5 ppm	1.0 ppm	1 ppm Ceiling
Nitrogen (CAS 7727-37-9)	Balance	None		

NOTE: Gas under pressure, 1000 PSIG at 70°F, Approx. 116 Liters gas at atmospheric pressure.

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**PHYSICAL AND CHEMICAL PROPERTIES**

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APPEARANCE AND ODOR - Colorless (10 ppm); pungent, irritating odor.

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<sup>3</sup> (1.153 kg/ m<sup>3</sup>)

SOLUBILITY IN WATER -  $\text{Cl}_2$  - 461 cm<sup>3</sup>/100 ml (0°C)  
Nitrogen - 2.3 cm<sup>3</sup>/100 ml (0°C)

N/A - Not Applicable

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**PHYSICAL HAZARD INFORMATION**

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PHYSICAL HAZARD - Compressed gas, 1000 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, 1000 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>LO</sub> Human 550 ppm/5M. LC<sub>50</sub> Rat 293 ppm/ 1 hour. LC<sub>50</sub> Mouse 137 ppm / 1 hour. LC<sub>LO</sub> Dog 800 ppm/ 30 minutes.

SIGNS AND SYMPTOMS OF EXPOSURE - Reported responses:

0.02 - 0.2 ppm - reported odor threshold	15 ppm - throat irritation
0.2-16 ppm - mild mucous membrane irritation	30 ppm - cough
7-8 ppm - eye irritation	40-60 ppm – serious damage

PRIMARY ROUTES OF ENTRY - Inhalation, skin and or eye contact.

TARGET ORGANS - Respiratory tract, eyes, skin.

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

EXPOSURE LIMITS - ACGIH 2013: Cl<sub>2</sub> 0.5 ppm, STEL 1.0 ppm; OSHA : PEL 1 ppm ceiling

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

EMERGENCY AND FIRST AID PROCEDURES - Remove from exposure. If breathing has stopped, give artificial respiration. Administer oxygen. CONSULT A PHYSICIAN IMMEDIATELY.

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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. 0 , 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.