

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

PRODUCT IDENTITY

LABEL IDENTITY - MSA P/N 711066 Calibration Check Gas, 10 ppm Chlorine in Nitrogen
CHEMICAL NAME - Chlorine, Nitrogen Mixture
ADDITIONAL IDENTITIES - MSA P/N 711066 Calibration Gas
FORMULA - Cl₂ in N₂

APPLICABLE CHEMICAL CONTENTS

	<u>%</u>	<u>TWA</u>	<u>STEL</u>	<u>OSHA PEL (STEL)</u>
Chlorine (CAS 7782-50-5) (ACGIH 2009)	0.001	0.5 ppm	1.0 ppm	1 ppm ceiling
Nitrogen (CAS 7727-37-9)	Balance	None		

NOTE: Gas under pressure, 500 PSIG at 70°F, Approx. 34 Liters gas at atmospheric pressure

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR – This is a greenish –yellow gas (10 ppm) with a 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/ft³ (1.153 kg/ m³)
SOLUBILITY IN WATER - Chlorine - 461 cm³/100 ml (0°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 - Chlorine is an irritant to mucous membranes, eyes, and skin. It is toxic and corrosive. LC_{LO} Human 550 ppm/5M. LC₅₀ Rat 293 ppm/1 H. LC₅₀ Mouse 137 ppm/1 H. LC_{LO} Dog 800 ppm/30 M.

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 eye contact.

TARGET ORGANS - Respiratory system, skin and eyes

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

EXPOSURE LIMITS - ACGIH 2009: Chlorine TWA 0.5 ppm, STEL 1.0 ppm; OSHA:PEL STEL 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.

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. 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. 7, July 2009

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.