

This product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. Section 313 chemicals are identified below under **APPLICABLE CHEMICAL CONTENTS**.

This product contains Hydrogen Cyanide and Nitrogen, substances subject to the Pennsylvania Worker and Community Right-To-Know Act.

---

**PRODUCT IDENTITY**

---

LABEL IDENTITY - MSA P/N 10028072, Calibration Check Gas, 10 ppm Hydrogen Cyanide in Nitrogen.  
CHEMICAL NAME - Hydrogen Cyanide, Nitrogen Mixture  
ADDITIONAL IDENTITIES - MSA P/N 10028072 Calibration Gas  
FORMULA - HCN in N<sub>2</sub>

---

**APPLICABLE CHEMICAL CONTENTS**

---

	<u>%</u>	<u>TWA</u>
Hydrogen Cyanide (CAS 74-90-8)( ACGIH 2010)	0.0010	*C 4.7 ppm
Nitrogen (CAS 7727-37-9)	Balance	None

\*C = Ceiling

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

Title III Section 313 Chemical: Hydrogen Cyanide (CAS No. 74-90-8)

---

**PHYSICAL AND CHEMICAL PROPERTIES**

---

APPEARANCE AND ODOR - Colorless gas, odor variously described as having odor of bitter almonds, onion, or garlic. 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>)

VAPOR DENSITY (AIR = 1) - 1

N/A - Not Applicable

---

**PHYSICAL HAZARD INFORMATION**

---

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

CONDITIONS OR MATERIALS TO AVOID – Hydrogen cyanide will attack some forms of plastics and rubber.

FLASH POINT - Not Applicable      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.

---

**HEALTH HAZARDS**

---

HEALTH HAZARDS - The IDLH (Immediately Dangerous to Life or Health) is 50 ppm. Hydrogen Cyanide is a highly toxic gas with LC<sub>LO</sub> reportedly as follows:

- Human inhalation LC<sub>LO</sub> 120 mg/m<sup>3</sup>/1 hour
- Human inhalation LC<sub>LO</sub> 200 mg/m<sup>3</sup>/10 minutes
- Human inhalation LC<sub>LO</sub> 270 ppm/6-8 minutes
- Human inhalation LC<sub>LO</sub> 181 ppm/10 minutes
- Human inhalation LC<sub>LO</sub> 135 ppm/30 minutes

SIGNS AND SYMPTOMS OF EXPOSURE - Weakness, confusion, headache, nausea, collapse.

PRIMARY ROUTES OF ENTRY - Inhalation, eye and skin absorption.

TARGET ORGANS – Hydrogen cyanide blocks utilization of delivered oxygen, resulting in rapid cellular asphyxiation.

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE - Any respiratory disorder may be aggravated by over exposure to gas mixtures containing Hydrogen Cyanide. Skin and eye conditions may also be aggravated by Hydrogen Cyanide exposures.

EXPOSURE LIMITS – Hydrogen cyanide: (ACGIH 2010) C 4.7 ppm; OSHA PEL TWA 10 ppm, NIOSH C 4.7 ppm

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

EMERGENCY AND FIRST AID PROCEDURES - Overexposure to Hydrogen Cyanide is not indicated with this products intended use due to the limited quantity of Hydrogen Cyanide contained in an individual cylinder. Nevertheless, first aid procedure for Hydrogen Cyanide gas is described here should overexposure somehow occur. Cyanide poisoning is rapidly fatal and prompt emergency treatment by prepared medical personnel is required. Antidote kits for use by medical personnel are available from the Taylor Pharmaceuticals as Cyanide Antidote Package. If physicians, registered nurses, or trained emergency medical technicians are readily available and close by the scene, use of these kits can be crucial for the treatment that should follow first aid measures.

FIRST AID - Remove the victim from exposure. Get medical attention immediately. **DO NOT ADMINISTER ARTIFICIAL RESPIRATION.** Have an assistant break an Amyl Nitrite pearl in a handkerchief and hold lightly near the victim's nose and mouth for 15 seconds stop for 30 seconds and hold it near mouth and nose for another 15 seconds. This interrupted application of Amyl Nitrite is important as continuous application may prevent adequate oxygenation. Repeat this application five times at 15 second intervals. Use a fresh pearl every five minutes until three or four pearls have been used. Persons giving first aid should avoid breathing Amyl Nitrite vapor. Administer oxygen should only be done by trained personnel.

---

**SAFE HANDLING AND USE**

---

HYGIENIC PRACTICES - Avoid breathing gas. Avoid skin and eye contact with gas.

PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT - Not Applicable

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. Use in well-ventilated areas.

**WORK PRACTICES** - Avoid breathing gas. Avoid skin contact with 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 2, March 2011

**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.