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

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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 10150614, Calibration Check Gas, 10 ppm Hydrogen Cyanide in Nitrogen.

CHEMICAL NAME - Hydrogen Cyanide, Nitrogen Mixture

ADDITIONAL IDENTITIES - MSA P/N 10150614 Calibration Gas

FORMULA - HCN, N2

APPLICABLE CHEMICAL CONTENTS

	%	TWA
Hydrogen Cyanide (CAS 74-90-8)	0.0010	*C 4.7 ppm
Nitrogen (CAS 7727-37-9)	Balance	None

*C = Ceiling

NOTE: Gas under pressure, 1000 PSIG at 70°F. Approx. 116 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 bitter almond, onion like, or garlic like.
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^3 (1.153 kg/ m$^{3)}$

SOLUBILITY IN WATER - Very soluble

*- Not Applicable

PHYSICAL HAZARD INFORMATION

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.

HEALTH HAZARDS

HEALTH HAZARDS - The IDLH (Immediately Dangerous to Life or Health) for Hydrogen Cyanide (HCN) is 50 ppm. Hydrogen cyanide is a highly toxic gas with LC_{LO} reportedly as follows:

Human inhalation LC_{LO} 120 mg/m^3/1 hour
Human inhalation LC_{LO} 200 mg/m^3/10 minutes
Human inhalation LC_{LO} 270 ppm/6-8 minutes
Human inhalation LC_{LO} 181 ppm/10 minutes
Human inhalation LC_{LO} 135 ppm/30 minutes

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

PRIMARY ROUTES OF ENTRY - Inhalation, 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. Additionally, skin and eye disorder may be aggravated by Hydrogen cyanide exposures.

EXPOSURE LIMITS – Hydrogen cyanide :	ACGIH 2013	C(ceiling) 4.7 ppm;
	OSHA	10 ppm, 11 mg/m^3 skin designation
	NIOSH	C 4.7 ppm

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

EMERGENCY AND FIRST AID PROCEDURES - Overexposure to hydrogen cyanide is not indicated with intended product use due to the limited quantity of hydrogen cyanide contained in the individual cylinder P/N 10150614 Calibration Check Gas (116 liters of 10 ppm Hydrogen Cyanide in Nitrogen). Hydrogen Cyanide is a highly toxic and irritating gas (Human LC_{LO} 200 ppm/1 minute) the small quantity available from a calibration cylinder (116 liters of 10 ppm Hydrogen Cyanide in air or approx. 1.2 milligram Hydrogen Cyanide) is insufficient to sustain a material volume above the Ceiling if accidentally released to ambient air. Content of one cylinder diluted by 23.7 cubic meter of ambient air (equivalent to a room size of 10 x 12 x7) would yield 0.05 ppm Hydrogen Cyanide.
In case of exposure immediately remove from exposure. If breathing has stopped, use a bag to supply artificial respiration if the victim is not breathing. DO NOT breathe into victim's mouth as you may inhale cyanide gas. Administer oxygen. Contact a physician immediately.

FIRST AID - Remove the victim from exposure. Get medical attention immediately. Use a bag to supply artificial respiration if the victim is not breathing. Do not breathe into victim's mouth as you may inhale cyanide gas. Contact physican immediately.

SAFE HANDLING AND USE

HYGIENIC PRACTICES - Avoid breathing gas. Avoid skin 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.

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. 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.