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**HEALTH HAZARDS**

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HEALTH HAZARDS - Carbon Monoxide TC<sub>LO</sub> (Human) is reportedly 650 ppm/45 minutes. LC<sub>LO</sub> (Human) 5000 ppm/5 minutes.

SIGNS AND SYMPTOMS OF EXPOSURE - Exposure to 500-1000 ppm may cause headache, rapid breathing, nausea, weakness, dizziness, and confusion.

PRIMARY ROUTES OF ENTRY - Inhalation

TARGET ORGANS - Lungs, blood, tissues. Carbon monoxide causes tissue hypoxia (lack of oxygen) by preventing blood from transporting sufficient oxygen.

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE - Carbon monoxide burden may aggravate angina pectoris. Pregnant women are reportedly more sensitive than others. Effects of carbon monoxide exposure are aggravated by heavy labor, heat stress, and high altitude.

EXPOSURE LIMITS - ACGIH 2011 TWA=25 ppm; OSHA PEL TWA 50 ppm

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

EMERGENCY AND FIRST AID PROCEDURES - Remove from exposure. Administer oxygen. Consult 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. 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.

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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. 12, Sept 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.