

This product contains carbon dioxide 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 491361 Calibration Verification Gas, 5.0% Carbon Dioxide in Nitrogen  
CHEMICAL NAME - Carbon Dioxide, Nitrogen Mixture  
ADDITIONAL IDENTITIES - MSA P/N 491361 Calibration Gas, Capnometer Gas Mixture  
FORMULA - CO<sub>2</sub> in N<sub>2</sub>

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**APPLICABLE CHEMICAL CONTENTS**

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	<u>%</u>	<u>TWA</u>
Carbon Dioxide (CAS 124-38-9)	5.0	0.5%
Nitrogen (CAS 7727-37-9)	Balance	None

\*STEL 30,000 ppm (ACGIH 1995-96)

NOTE: Gas Under Pressure, 120 PSIG at 70°F, Approx. 4 Liters Gas at Atmospheric Pressure

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**PHYSICAL AND CHEMICAL PROPERTIES**

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APPEARANCE AND ODOR - Colorless, Odorless Gas  
BOILING POINT - N/A  
VAPOR PRESSURE - N/A  
VAPOR DENSITY (AIR = 1) - Approx. 1  
SOLUBILITY IN WATER - Carbon Dioxide - 179 cm<sup>3</sup>/100 ml (0°C)  
Nitrogen - 2.3 cm<sup>3</sup>/100 ml (0°C)  
SPECIFIC GRAVITY (H<sub>2</sub>O = 1) - N/A  
PERCENT VOLATILE BY VOLUME - N/A

N/A - Not Applicable

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**PHYSICAL HAZARD INFORMATION**

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PHYSICAL HAZARD - Compressed Gas, 120 PSIG at 70°F  
CONDITIONS OR MATERIALS TO AVOID: Carbon Dioxide reacts with Caustic Materials  
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, 120 PSIG at 70°F. Do Not Exceed 120°F.

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**HEALTH HAZARDS**

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HEALTH HAZARDS - Carbon Dioxide and Nitrogen are asphyxiants.

SIGNS AND SYMPTOMS OF EXPOSURE - Significant dilution of ambient air by asphyxiants causes air hunger, increased breathing frequency, drowsiness, weakness and ringing in ears.

PRIMARY ROUTES OF ENTRY - Inhalation

TARGET ORGANS - Lungs

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

EXPOSURE LIMITS - Carbon Dioxide 5000 ppm. Nitrogen - None (ACGIH 1995-96). Both are asphyxiants.

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

EMERGENCY AND FIRST AID PROCEDURES - Remove From Exposure

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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.

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. 6, June 1999

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.