

REC'D FEB 24 2000

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TOL00197

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

**MINE SAFETY APPLIANCES COMPANY**  
P.O. Box 426  
Pittsburgh, PA 15230  
PHONE (412) 967-3000

This product contains nitrogen, a substance 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 813369 Calibration Check Gas, 30 ppm R-114 in Nitrogen  
CHEMICAL NAME - 1,2-Dichlorotetrafluoroethane in Nitrogen  
ADDITIONAL IDENTITIES - MSA P/N 812823 Calibration Gas 30 ppm R-114 in Nitrogen  
FORMULA -  $C_2Cl_2F_4$  in  $N_2$

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**APPLICABLE CHEMICAL CONTENTS**

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	<u>%</u>	<u>TWA</u>
$C_2Cl_2F_4$ (CAS 76-14-2)	0.003	1000 ppm
Nitrogen (CAS 7727-37-9)	Balance	None

NOTE: Gas Under Pressure, 1000 PSIG at 70°F, Approx. 100 Liters Gas at Atmospheric Pressure

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**PHYSICAL AND CHEMICAL PROPERTIES**

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APPEARANCE AND ODOR - Colorless, Odorless Gas Mixture  
BOILING POINT - N/A  
VAPOR PRESSURE - N/A  
VAPOR DENSITY (AIR = 1) - > 1  
SOLUBILITY IN WATER -  $C_2Cl_2F_4$  - approx. 0.006 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, 1000 PSIG at 70°F

CONDITIONS OR MATERIALS TO AVOID - Avoid hot, reactive metals. Open flame, welding arcs, resistance heaters, etc., which can result in thermal decomposition releasing hydrogen chloride and small amount of phosgene and chlorine.

FLASH POINT - N/A  
LEL - N/A  
UEL - N/A

EXTINGUISHING MEDIA - This Calibration Gas Mixture Is Not Flammable

SPECIAL FIRE FIGHTING PROCEDURES - If in fire situation, wear self-contained breathing apparatus with a fullfacepiece operated in pressure-demand or other positive pressure mode and full body protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS - Gas Under Pressure, 1000 PSIG at 70°F. Do Not Exceed 120°F.

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### HEALTH HAZARDS

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**HEALTH HAZARDS** - The ACGIH TWA for R-114 is 1000 ppm. The IDLH of the R-114 is 15000 ppm. Nitrogen is an asphyxiant.

**SIGNS AND SYMPTOMS OF EXPOSURE:** None known for 30 ppm R-114. Nitrogen is an asphyxiant. 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** - Respiratory system, cardiovascular system.

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

**EXPOSURE LIMITS** - ACGIH TWA for R-114 is 1000 ppm.

**CARCINOGENICITY DATA** - Neither Nitrogen nor R-114 is listed by NIOSH, RTECS, IARC, NTP or OSHA.

**EMERGENCY AND FIRST AID PROCEDURES** - Remove victim from exposure. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention 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

**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. 4, 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.