

REC'D FEB 24 2000

6108

TOL00414

**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 oxygen 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 710880 Calibration Check Gas, 990 ppm R-11 in Air  
CHEMICAL NAME - Trichlorofluoromethane in Air  
ADDITIONAL IDENTITIES - MSA P/N 710880 Calibration Gas 990 ppm R-11 in Air  
FORMULA - CCl<sub>3</sub>F in Air

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**APPLICABLE CHEMICAL CONTENTS**

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	<u>%</u>	<u>TWA</u>
CCl <sub>3</sub> F (CAS 75-69-4)	0.099	1000 ppm (Ceiling)
Air	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 gas with slight ethereal odor.  
BOILING POINT - N/A  
VAPOR PRESSURE - N/A  
VAPOR DENSITY (AIR = 1) - > 1  
SOLUBILITY IN WATER - CCl<sub>3</sub>F - approx. 17.8 cm<sup>3</sup>/100 ml (25°C)  
Oxygen - 3.2 cm<sup>3</sup>/100 ml (25°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 bases. Avoid powdered active metals such as aluminum, alkali metals or alkaline earth metals.

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

EXTINGUISHING MEDIA - This Calibration Gas Mixture Is Not Flammable

SPECIAL FIRE FIGHTING PROCEDURES - CCl<sub>3</sub>F decomposes above 1100°F yielding toxic halogen compounds. Use self-contained pressure demand type breathing apparatus with full facepiece.

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

6108

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**HEALTH HAZARDS**

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HEALTH HAZARDS - The ACGIH Ceiling Limit for R-11 is 1000 ppm. R-11 inhalation 4-hour LC50 (RAT) is 26,200 ppm.

SIGNS AND SYMPTOMS OF EXPOSURE: Inhalation of high concentrations of vapor may cause dizziness, disorientation, incoordination, narcosis, nausea or vomiting leading to unconsciousness.

PRIMARY ROUTES OF ENTRY - Inhalation

TARGET ORGANS - Lungs

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

EXPOSURE LIMITS - ACGIH Threshold Limit Value-Ceiling for R-11 is 1000 ppm.

CARCINOGENICITY DATA - Component gases are not 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. 3, 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.