

MATERIAL SAFETY DATA SHEET  
29 CFR 1910.1200 OSHA Hazard  
Communication Rule Format

MINE SAFETY APPLIANCES COMPANY  
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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 812785 Calibration Check Gas,  
30 ppm R-11 in Nitrogen

CHEMICAL NAME - Trichlorofluoromethane in Nitrogen

ADDITIONAL IDENTITIES - MSA P/N 812785 Calibration Gas 30 ppm R-11  
in Nitrogen

FORMULA -  $\text{CCl}_3\text{F}$  in  $\text{N}_2$

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APPLICABLE CHEMICAL CONTENTS

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	%	TWA
$\text{CCl}_3\text{F}$ (CAS 75-69-4)	0.003	C1000 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 -  $\text{CCl}_3\text{F}$  -- approx. 17.8 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 -  $\text{CCl}_3\text{F}$  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.

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**HEALTH HAZARDS**

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HEALTH HAZARDS - The ACGIH TWA for R-11 is 1000 ppm C. R-11 inhalation 4-hour LC50 (RAT) is 26,200 ppm. Nitrogen is an asphyxiant.

SIGNS AND SYMPTOMS OF EXPOSURE: None known for 30 ppm R-11. 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 - Lungs

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

EXPOSURE LIMITS - ACGIH TWA for R-11 is 1000 ppm C.

CARCINOGENICITY DATA - Neither Nitrogen nor R-11 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 - November 1994

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