

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
1000 Cranberry Woods Drive
Cranberry Township, PA 16066
PHONE (724) 776-8900

This product contains oxygen and nitrogen, substances subject to the Pennsylvania Worker and Community Right-To-Know Act.

PRODUCT IDENTITY

LABEL IDENTITY - MSA P/N 710878 Calibration Check Gas, 990 ppm R-12 in Air

CHEMICAL NAME - Dichlorodifluoromethane in Air

ADDITIONAL IDENTITIES - MSA P/N 710878 Calibration Gas 990 ppm R-12 in Air

FORMULA - CCl_2F_2 in Air

APPLICABLE CHEMICAL CONTENTS

	<u>Conc</u>	<u>TWA</u>
Dichlorodifluoromethane (CAS 75-71-8)(ACGIH 2011)	990 ppm	1000 ppm
Air	Balance	None

NOTE: Gas under pressure, 1000 PSIG at 70°F, and contains approx. 100 liters gas at atmospheric pressure

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR - Colorless with faint ethereal odor.

Following information is for Nitrogen the main component of this gas mixture

BOILING POINT - -320.4°F (-195.8 ° C) SPECIFIC GRAVITY (air = 1) @70°F (21.1 °C): 0.906

VAPOR PRESSURE @70°F (21.1 °C): N/A* PERCENT VOLATILE BY VOLUME - N/A*

GAS DENSITY @32°F (0 °C) and 1 atm: 0.072 lbs/ft³ (1.153 kg/ m³)

SOLUBILITY IN WATER - CCl_2F_2 - approx. 6 cm³/100 ml (25°C)
Oxygen - 3.2 cm³/100 ml (25°C)
Nitrogen - 2.3 cm³/100 ml (0°C)

N/A - Not Applicable

PHYSICAL HAZARD INFORMATION

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 non-flammable.

SPECIAL FIRE FIGHTING PROCEDURES - Dichlorodifluoromethane decomposes at high temperatures yielding toxic halogen compounds. Use self-contained pressure demand type breathing apparatus with full face piece.

UNUSUAL FIRE AND EXPLOSION HAZARDS - Gas under, pressure, 1000 PSIG at 70°F. Do not exceed 120°F.

HEALTH HAZARDS

HEALTH HAZARDS - The ACGIH(2011) TWA for Dichlorodifluoromethane is 1000 ppm. Dichlorodifluoromethane inhalation 30 minute LC₅₀ (RAT) is 800,000 ppm.

SIGNS AND SYMPTOMS OF EXPOSURE: Inhalation of high concentration of vapor may cause dizziness, tremor, asphyxia, unconsciousness, and cardiac arrhythmias, cardiac arrest.

PRIMARY ROUTES OF ENTRY - Inhalation

TARGET ORGANS - Cardiovascular system, Peripheral nervous system.

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE - No information.

EXPOSURE LIMITS - ACGIH TWA for Dichlorodifluoromethane is 1000 ppm.

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

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

SAFE HANDLING AND USE

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. 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.

CONTROL MEASURES

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, 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.