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.

PRODUCT IDENTITY

LABEL IDENTITY - MSA P/N 804866 Calibration Check Gas, 100 ppm R-12 in Nitrogen

CHEMICAL NAME - Dichlorodifluoromethane in Nitrogen

ADDITIONAL IDENTITIES - MSA P/N 804866 Calibration Gas 100 ppm R-12 in Nitrogen

FORMULA - CCl_2F_2 in N_2

APPLICABLE CHEMICAL CONTENTS

 CCl₂F₂ (CAS 75-71-8)(ACGIH 2007)
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 TWA

 Nitrogen (CAS 7727-37-9)
 Balance
 None

NOTE: Gas under pressure, 1000 PSIG at 70°F, Approx. 100 Liters gas at atmospheric pressure

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR - Colorless, Odorless Gas Mixture

BOILING POINT - N/A^* SPECIFIC GRAVITY ($H_2O = 1$) - N/A^*

VAPOR PRESSURE - N/A*

PERCENT VOLATILE BY VOLUME - N/A*

VAPOR DENSITY (AIR = 1) - > 1

SOLUBILITY IN WATER - CCl₂F₂ - approx. 6 cm³/100 ml (25°C)

Nitrogen - $2.3 \text{ cm}^3/100 \text{ ml } (0^{\circ}\text{C})$

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 not 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 2007) TWA for Dichlorodifluoromethane is 1000 ppm. Dichlorodifluoromethane inhalation 30 minute LC₅₀ (RAT) is 800,000 ppm. Nitrogen is an asphyxiant.

SIGNS AND SYMPTOMS OF EXPOSURE: None known for 100 ppm Dichlorodifluoromethane. 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 2007) 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, give 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, August 2007

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.