

REC'D FEB 24 2000

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

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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 710874 Calibration Check Gas, 990 ppm R - 134a in Air
CHEMICAL NAME - 1,1,1,2 - Tetrafluoroethane in Air
ADDITIONAL IDENTITIES - MSA P/N 710874 Calibration Gas 990 ppm HFC - 134a in Air
FORMULA - CF_3CH_2F in Air

APPLICABLE CHEMICAL CONTENTS

	<u>%</u>	<u>TWA</u>
CF_3CH_2F (CAS 811-97-2)	0.099	None established*
Air	Balance	None

*A manufacturer suggests 1000 ppm TWA

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
VAPOR PRESSURE - N/A
VAPOR DENSITY (AIR = 1) - > 1
SOLUBILITY IN WATER - CF_3CH_2F - approx. 36 cm³/100 ml (25°C)
Oxygen - 3.2 cm³/100 ml (25°C)
Nitrogen - 2.3 cm³/100 ml (0°C)
SPECIFIC GRAVITY (H₂O = 1) - N/A
PERCENT VOLATILE BY VOLUME - N/A

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

EXTINGUISHING MEDIA - This Calibration Gas Mixture Is Not Flammable

SPECIAL FIRE FIGHTING PROCEDURES - CF_3CH_2F decomposes at high temperatures 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

HEALTH HAZARDS - No TWA has been established for $\text{CF}_3\text{CH}_2\text{F}$ by ACGIH. A TWA of 1000 ppm is suggested by a manufacturer.

SIGNS AND SYMPTOMS OF EXPOSURE: Inhalation of very high concentrations gas vapor may cause temporary alteration of the heart's electrical activity with irregular pulse, palpitations or inadequate circulation.

PRIMARY ROUTES OF ENTRY - Inhalation

TARGET ORGANS - Lung

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

EXPOSURE LIMITS - Not established for R - 134a.

CARCINOGENICITY DATA - Neither Air nor R - 134a 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.

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.

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. 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.