

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 803498 Calibration Check Gas, 100 ppm R - 123 in Nitrogen  
CHEMICAL NAME - 2,2 - Dichloro - 1,1,1 - Trifluoroethane in Nitrogen  
ADDITIONAL IDENTITIES - MSA P/N 803498 Calibration Gas 100 ppm R - 123 in Nitrogen  
FORMULA -  $\text{CHCl}_2\text{CF}_3$  in  $\text{N}_2$

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**APPLICABLE CHEMICAL CONTENTS**

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	<u>%</u>	<u>TWA</u>
$\text{CHCl}_2\text{CF}_3$ (CAS 306-83-2)	0.01	None established*
Nitrogen (CAS 7727-37-9)	Balance	None

\* DUPONT: AEL 50 ppm TWA, 5 ppm ceiling.

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

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**PHYSICAL AND CHEMICAL PROPERTIES**

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APPEARANCE AND ODOR - Colorless, odorless gas mixture  
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/ft<sup>3</sup> (1.153 kg/ m<sup>3</sup>)  
SOLUBILITY IN WATER -  $\text{CHCl}_2\text{CF}_3$  -approx. 0.39% WT @25C (77F)  
Nitrogen - 2.3 cm<sup>3</sup>/100 ml (0°C)  
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  
EXTINGUISHING MEDIA - This calibration gas mixture is not flammable.  
SPECIAL FIRE FIGHTING PROCEDURES -  $\text{CHCl}_2\text{CF}_3$  decomposes at 250°C 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.

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**HEALTH HAZARDS**

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HEALTH HAZARDS - No TWA has been set for R- 123. Dupont suggests 50 ppm TWA-8 hr. DUPONT has set a ceiling of 5 ppm . Inhalation 4-hour LC<sub>50</sub> (Rat) is 32,000 ppm. Skin absorption LD<sub>50</sub> (Rabbit) is >2000 mg/kg. Nitrogen is an asphyxiant. In isolated instances some workers overexposed to R-123 were found to have elevated liver enzymes. These elevated enzymes returned to normal when the overexposure ceased.

SIGNS AND SYMPTOMS OF EXPOSURE: None known for 100 ppm R - 123. Significant dilution of ambient air by asphyxiants causes' air hunger and an increase in breathing frequency, drowsiness, weakness, and ringing in ears. Anesthetic effects, light headedness, dizziness, confusion, incoordination, drowsiness, or unconsciousness, heart thumping, irregular heartbeat.

PRIMARY ROUTES OF ENTRY – Inhalation, skin, eyes

TARGET ORGANS – Lungs, blood, CNS, heart, liver,

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

EXPOSURE LIMITS - Not established for R-123 - Dupont suggests 50 ppm TWA-8 hr ;  
Dupont 5 ppm ceiling for 1 hour exposure.

CARCINOGENICITY DATA - Neither Nitrogen nor R - 123 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. 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.

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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. Gas is heavier than air. Follow the calibration procedure detailed in the MSA instruction manual provided with the instrument under calibration.

DATE OF PREPARATION - Rev. 9, September 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.