

DUPONT

-- FREON 114

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MSDS Safety Information  
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FSC: 6830  
NIIN: 00-290-4378  
MSDS Date: 01/01/1997  
MSDS Num: CJYYW  
Product ID: FREON 114  
MFN: 01  
Responsible Party  
Cage: EO596  
Name: DUPONT  
Address: 1007 MARKET STREET  
City: WILMINGTON DE 19898-5000  
Info Phone Number: PROD 800-441-7515 MED: 800-441-3637  
Emergency Phone Number: 800-424-9300 MED EM: 800-441-3637  
Resp. Party Other MSDS No.: 3038FR CORP MSDS #DU001061  
Preparer's Name: DUPONT CHEMICALS ENG/PROD  
Chemtrec IND/Phone: (800)424-9300  
Review Ind: Y  
Published: Y

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Contractor Summary  
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Cage: 02LX8  
Name: DDRV STOCK MAINTENANCE DIV/DDR-V-H  
Address: 8000 JEFFERSON-DAVIS HIGHWAY  
City: RICHMOND VA 23297  
Phone: 804-279-3125  
Cage: EO596  
Name: DUPONT  
Address: 1007 MARKET STREET  
City: WILMINGTON DE 19898-5000  
Phone: PROD 800-441-7515 MED: 8004413637  
Cage: 5P414  
Name: E I DUPONT DE NEMOURS & CO, FREON PROD (REPLACED BY 73925)  
Address: 1007 MARKET ST  
City: WILMINGTON DE 19899  
Phone: 800-441-3637-MED 800-424-9300-TRAN

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Item Description Information  
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Item Manager: S9G  
Item Name: DICHLOROTETRAFLUOROETHANE, TECHNICAL  
Specification Number: BB-F-1421  
Unit of Issue: CY  
Quantitative Expression: 00000000010LB  
UI Container Qty: 10 LB

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Ingredients  
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Cas: 76-14-2  
RTECS #: KI1101000  
Name: 1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE  
Percent by Wt: 100.  
OSHA PEL: 7000 MG/M3;1000 PPM

ACGIH TLV: 6990 MG/M3;1000 PPM  
ACGIH STEL: NOT ESTABLISHED  
Ozone Depleting Chemical: 1

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Health Hazards Data  
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LD50 LC50 Mixture: INHALATION 0.5-HOUR LC50 720,000PPM RATS  
Carcinogenicity Inds - NTP: NO  
IARC: NO  
OSHA: NO

Effects of Exposure: INHALATION OF HIGH CONCENTRATIONS OF VAPOR IS HARMFUL AND MAY CAUSE HEART IRREGULARITIES, UNCONSCIOUSNESS OR DEATH. INTENTIONAL MISUSE OR DELIBERATE INHALATION MAY CAUSE DEATH WITHOUT WARNING. VAPOR REDUCES OXYGEN AVAILABLE FOR BREATHING AND IS HEAVIER THAN AIR. LIQUID CONTACT CAN CAUSE FROSTBITE.

Explanation Of Carcinogenicity: NONE OF THE COMPONENTS PRESENT IN THIS MATERIAL AT CONCENTRATIONS EQUAL TO OR GREATER THAN 0.1% ARE LISTED BY IARC, NTP, OSHA OR ACGIH AS A CARCINOGEN.

Signs And Symptoms Of Overexposure: OVEREXPOSURE BY SKIN OR EYE CONTACT MAY INCLUDE SKIN IRRITATION WITH DISCOMFORT OR RASH; OR EYE IRRITATION WITH DISCOMFORT, TEARING, OR BLURRING OF VISION. CONTACT WITH LIQUID MAY CAUSE FROSTBITE. OVEREXPOSURE BY INHALATION OF THE VAPORS MAY CAUSE NONSPECIFIC DISCOMFORT SUCH AS NAUSEA, HEADACHE, OR WEAKNESS; TEMPORARY ALTERATION OF THE HEART'S ELECTRICAL ACTIVITY WITH IRREGULAR PULSE, PALPITATIONS, OR INADEQUATE CIRCULATION.

Medical Cond Aggravated By Exposure: INDIVIDUALS WITH PREEXISTING DISEASES OF THE CENTRAL NERVOUS OR CARDIOVASCULAR SYSTEM MAY HAVE INCREASED SUSCEPTIBILITY TO THE TOXICITY OF EXCESSIVE EXPOSURES.

First Aid: INHALATION: IMMEDIATELY REMOVE TO FRESH AIR. KEEP PERSONS CALM. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN, CALL A PHYSICIAN. SKIN CONTACT: FLUSH WITH WATER. TREAT FOR FROSTBITE IF NECESSARY. GET MEDICAL ATTENTION IF IRRITATION IS PRESENT.  
EYE CONTACT:

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN. INGESTION: IS NOT CONSIDERED A POTENTIAL ROUTE OF EXPOSURE.  
NOTES TO PHYSICIANS: BECAUSE OF POSSIBLE DISTURBANCES OF CARDIAC RHYTHM, CATECHOLAMINE DRUGS, SUCH AS EPINEPHRINE, SHOULD BE USED WITH SPECIAL CAUTION IN SITUATIONS OF EMERGENCY LIFE SUPPORT.

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Handling and Disposal  
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Spill Release Procedures: VENTILATE AREA, ESPECIALLY LOW PLACES WHERE HEAVY VAPORS MIGHT COLLECT. REMOVE OPEN FLAMES. USE SELF-CONTAINED BREATHING APPARATUS (SCBA) IN CASE OF LARGE SPILLS. COMPLY WITH FEDERAL, STATE, AND LOCAL REGULATIONS ON REPORTING HANDLING (PERSONNEL). AVOID BREATHING VAPORS AND CONTACT OF LIQUID WITH SKIN OR EYES. USE WITH SUFFICIENT VENTILATION TO KEEP EMPLOYEE EXPOSURE BELOW RECOMMENDED LIMITS.

Neutralizing Agent: NOT PROVIDED

Waste Disposal Methods: COMPLY WITH FEDERAL, STATE, AND LOCAL REGULATIONS. RECLAIM BY DISTILLATION OR REMOVE TO A LICENSED WASTE DISPOSAL FACILITY.

Handling And Storage Precautions: CLEAN, DRY AREA. DO NOT HEAT ABOVE 125 DEG F. AVOID BREATHING VAPORS & CONTACT OF LIQUID WITH SKIN OR EYES. USE WITH SUFFICIENT VENTILATION TO KEEP EMPLOYEE EXPOSURE BELOW RECOMMENDED LIMITS

Other Precautions: NOT RELEVANT

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Fire and Explosion Hazard Information

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Flash Point Method: TOC  
Flash Point Text: WILL NOT BURN  
Autoignition Temp Text: N/D  
Extinguishing Media: AS APPROPRIATE FOR COMBUSTIBLES IN AREA.  
Fire Fighting Procedures: SELF-CONTAINED BREATHING APPARATUS (SCBA) IS  
REQUIRED IF CYLINDERS RUPTURE OR RELEASE CONTENTS UNDER FIRE CONDITIONS.  
USE WATER SPRAY OR FOG TO COOL CONTAINERS.  
Unusual Fire/Explosion Hazard: CYLINDERS ARE EQUIPPED WITH PRESSURE AND  
TEMPERATURE RELIEF DEVICES BUT STILL MAY RUPTURE UNDER FIRE CONDITIONS.  
DECOMPOSITION MAY OCCUR.  
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Control Measures

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Respiratory Protection: UNDER NORMAL MANUFACTURING CONDITIONS, NO RESPIRATORY  
PROTECTION IS REQUIRED WHEN USING THIS PRODUCT. SELF-CONTAINED BREATHING  
APPARATUS (SCBA) IS REQUIRED IF A LARGE RELEASE OCCURS.  
Ventilation: NORMAL VENTILATION FOR STANDARD MANUFACT PROCEDURES GENERALLY  
ADEQUATE. LOCAL EXHAUST BE USED WHEN LARGE AMOUNTS ARE RELEASED. MECH IN  
LOW OR ENCLOSED PLACES.  
Protective Gloves: IMPERVIOUS GLOVES.  
Eye Protection: CHEMICAL SPLASH GOGGLES.  
Other Protective Equipment: NOT PROVIDED  
Work Hygienic Practices: NOT PROVIDED  
Supplemental Safety and Health: NOT RELEVANT  
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Physical/Chemical Properties

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HCC: G3  
Boiling Point: =3.9C, 39.F  
Vapor Pres: 31PSIA@25C(77F)  
Vapor Density: 6.2-AIR=1  
Spec Gravity: 1.46  
Evaporation Rate & Reference: >1(CCL4=1.0)  
Solubility in Water: 0.013 WT%@25C(77F)  
Appearance and Odor: CLEAR, COLORLESS LIQUEFIED GAS, LIGHT ETHEREAL  
Percent Volatiles by Volume: 100 WT%  
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Reactivity Data

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Stability Indicator: YES  
Stability Condition To Avoid: MATERIAL IS STABLE. HOWEVER, AVOID OPEN FLAMES  
AND HIGH TEMPERATURES.  
Materials To Avoid: INCOMPATIBLE WITH ALKALI OR ALKALINE EARTH METALS -  
POWDERED AL, ZN, BE, ETC.  
Hazardous Decomposition Products: DECOMPOSITION PRODUCTS ARE HAZARDOUS.  
"FREON" 114 CAN DECOMPOSE AT HIGH TEMPERATURES (OPEN FLAMES, GLOWING METAL  
SURFACES,ETC.) FORMING HYDROCHLORIC & HYDROFLUORIC ACIDS, & POSSIBLY  
CARBONYL HALIDE  
Hazardous Polymerization Indicator: NO  
Conditions To Avoid Polymerization: WILL NOT OCCUR.  
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Toxicological Information

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Toxicological Information: LC50 INHAL (0.5 HR) 720,000 PPM IN RATS. ORAL ALD:  
>2250 MG/KG IN RATS. COMPOUND IS MILD SKIN & EYE IRRITANT. UNTESTED  
FOR ANIMAL SENSITIZATION. TOXIC EFFECTS IN ANIMALS BY INHALATION/INGESTION

INCLUDE CENTRAL NERVOUS SYSTEM EFFECTS, CARDI AC SENSITIZATION, RESPIRATORY & LIVER EFFECTS. LIMITED STUDY WITH MICE FOR 23 MONTHS TO MIX OF CHLOROFLUOROCARBONS INCLUDING 250,000 PPM OF FREON 114 SHOWED NO EVIDENCE OF CARCINOGENIC ACTIVITY. NO ANIMAL TEST REPORTS ARE AVILABLE TO DEFIN E EMBRYOTOXIC OR REPRODUCTIVE HAZARDS. NO MUTAGENIC ACTIVITY IN BACTERIAL OR MAMMALIAN CELL CULTURES.

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Ecological Information  
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Ecological: 96 HR LC50 KILLIFISH: 45 PPM  
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MSDS Transport Information  
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Transport Information: SEE TRANSPORTATION DATA.  
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Regulatory Information  
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Sara Title III Information: IS A 313 CHEMICAL UNDER SARA. NOT AN EHS CHEMICAL.

Federal Regulatory Information: NOT A CERCLA CHEMICAL. REPORTED/INCLUDED ON TSCA INVENTORY.

State Regulatory Information: NOT PROVIDED  
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Other Information  
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Other Information: NOT RELEVANT  
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Transportation Information  
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Responsible Party Cage: E0596  
Trans ID NO: 151082  
Product ID: FREON 114  
MSDS Prepared Date: 01/01/1997  
Review Date: 01/19/2000  
MFN: 1  
Net Unit Weight: 10 LBS  
Multiple KIT Number: 0  
Unit Of Issue: CY  
Container QTY: 10 LB  
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Detail DOT Information  
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DOT PSN Code: EVY  
DOT Proper Shipping Name: 1,2- $\text{DICHLORO-1,1,2,2-TETRAFLUOROETHANE}$  OR REFRIGERANT GAS R 114  
DOT PSN Modifier: R114  
Hazard Class: 2.2  
UN ID Num: UN1958  
Label: NONFLAMMABLE GAS  
Non Bulk Pack: 304  
Bulk Pack: 314,315  
Max Qty Pass: 75 KG  
Max Qty Cargo: 150 KG  
Vessel Stow Req: A  
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Detail IMO Information  
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IMO PSN Code: FML  
IMO Proper Shipping Name: 1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE  
IMDG Page Number: 2131  
UN Number: 1958  
UN Hazard Class: 2(2.2)  
IMO Packaging Group: -  
Subsidiary Risk Label: -  
EMS Number: 2-09  
MED First Aid Guide NUM: 350

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Detail IATA Information  
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IATA PSN Code: JBJ  
IATA UN ID Num: 1958  
IATA Proper Shipping Name: 1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE  
IATA PSN Modifier: (R114)  
IATA UN Class: 2.2  
IATA Label: NON-FLAMMABLE GAS  
Packing Note Passenger: 200  
Max Quant Pass: 75KG  
Max Quant Cargo: 150KG  
Packaging Note Cargo: 200

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Detail AFI Information  
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AFI PSN Code: JBJ  
AFI Proper Shipping Name: DICHLOROTETRAFLUOROETHANE  
AFI Hazard Class: 2.2  
AFI UN ID NUM: UN1958  
Special Provisions: P5  
Back Pack Reference: A6.3, A6.5

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HAZCOM Label  
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Product ID: FREON 114  
Cage: E0596  
Assigned IND: Y  
Company Name: DUPONT  
Street: 1007 MARKET STREET  
City: WILMINGTON DE  
Zipcode: 19898-5000  
Health Emergency Phone: 800-424-9300 MED EM: 800-441-3637  
Label Required IND: Y  
Date Of Label Review: 01/19/2000  
Status Code: A  
Origination Code: F  
Eye Protection IND: YES  
Skin Protection IND: YES  
Signal Word: CAUTION  
Respiratory Protection IND: YES  
Health Hazard: Slight  
Contact Hazard: Slight  
Fire Hazard: None  
Reactivity Hazard: None  
Hazard And Precautions: INHALATION OF HIGH CONCENTRATIONS OF VAPOR IS HARMFUL  
AND MAY CAUSE HEART IRREGULARITIES, UNCONSCIOUSNESS OR DEATH. INTENTIONAL  
MISUSE OR DELIBERATE INHALATION MAY CAUSE DEATH WITHOUT WARNING. VAPOR

REDUCES OXYGEN AVAILABLE FOR BREATHING AND IS HEAVIER THAN AIR. LIQUID CONTACT CAN CAUSE FROSTBITE.

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