

## **"FREON" 114**

### **MSDS Number**

CKBSG

### **National Stock Number**

6830-00-782-6232

### **Product Name**

"FREON" 114

### **Manufacturer**

DUPONT

### **Product Identification**

Product ID:"FREON" 114

MSDS Date:01/07/1997

FSC:6830

NIIN:00-782-6232

Status Code:A

MSDS Number: CKBSG

### **Responsible Party**

DUPONT

1007 MARKET STREET

WILMINGTON , DE 19898-5000

US

Emergency Phone: 800-441-3637

Info Phone: 800-441-3637

Cage: EO596

### **Contractor**

E I DUPONT DE NEMOURS & CO, FREON PROD (REPLACED BY 73925)

WILMINGTON, DE 19899

US

800-441-3637-MED 800-424-9300-TRAN

Cage: 5P414

### **Ingredients**

1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE ("FREON"114)

CAS: 76-14-2

RTECS: KI1101000

OSHA PEL7000 MG/M3;1000 PPM

ACGIH TLV: 6990 MG/M3;1000 PPM

### **Hazards**

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO  
Health Hazards Acute and Chronic:INHALATION OF HIGH CONCENTRATIONS OF VAPOR IS HARMFUL & MAY CAUSE HEART IRREGULARITIES, UNCONSCIOUSNESS OR DEATH. INTENTIONAL MISUSE OR DELIBERATE INHALATION MAY CAUSE DEATH WITHOUT WARNING. VAPOR RED UCES OXYGEN AVAILABLE FOR BREATHING & 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.

Effects 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. OVE REXPOSURE 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 PAUSE. 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

First Aid:INHALATION: MOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN. SKIN: FLUSH WITH WATER. TREAT FOR FROSTBITE IF NECESSARY. GET ME DICAL ATTENTION IF IRRITATION IS PRESENT. EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINS. CALL A PHYSICIAN. INGESTION: INGESTION IS NOT CONSIDERED A POTENTIAL ROUTE OF EXPOSURE. NOTE TO PHYSICIAN: BECAUSE OF POSSIBLE DISTURBANCES OF CARDIAC RHYTHM, CATECHOLAMINE DRUGS, SUCH AS EPINEPHRINE SHOULD BE USED WITH SPECIAL CAUTION IN SITUATIONS OF EMERGENCY LIFE SUPPORT.

## Fire Fighting

Flash Point Method:TOC  
Flash Point:WILL NOT BURN  
Autoignition Temp: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 & TEMPERATURE RELIEF DEVICES, BUT STILL MAY RUPTURE UNDER FIRE CONDITIONS. DECOMPOSITION MAY OCCUR.

## Accidental Release

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, & LOCAL R EGULATIONS ON REPORTING RELEASES. REVIEW FIRE FIGHTING MEASURES AND HANDLING SECTION BEFORE PROCEEDING WITH CLEAN-UP. USE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT DURING CLEAN-UP.  
Neutralizing Agent:NONE PROVIDED BY MFR.

## Handling

Handling and Storage Precautions:STORAGE: 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:NONE PROVIDED BY MFR.

## Exposure Controls

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 IS GENERALLY ADEQUATE. LOCAL EXHAUST SHOULD BE USED FOR LARGE RELEASES. MECHANICAL FOR LOW OR ENCLOSED PLACES.  
Protective Gloves:IMPERVIOUS GLOVES IF LIQUID CONTECT WITH SKIN IS POSSIBLE.  
Eye Protection:USE CHEMICAL SPLASH GOGGLES AS NEEDED TO PREVENTLIQUID CONTACT WITH THE EYES.  
Other Protective Equipment:NONE PROVIDED BY MFR.  
Work Hygienic Practices:NONE PROVIDED BY MFR.  
Supplemental Safety and Health

EXPOSURE GUIDELINES: EXPOSURE LIMITS FOR "FREON" 114: PEL (OSHA) = 1,000 PPM, 7,000 MG/M3, 8 HR. TWA. TLV (ACGIH) = 1,000 PPM, 6,990 MG/M3, 8 HR. TWA, A4.

## Chemical Properties

HCC:G3  
Boiling Pt: =4.C, 39.2F  
Decomp Temp: =593.C, 1099.4F  
Decomp Text: AUTODECOMPOSITION  
Vapor Pres: 31 PSIA @ 25 DEG C (77 F)  
Vapor Density: 6.2(AIR=1)  
Spec Gravity: 1.46 @77F- LIQUID  
Evaporation Rate & Reference: > 1 (CC14 = 1.0)  
Solubility in Water: 0.013 WT% @ 25 DEG C  
Appearance and Odor: LIQUEFIED GAS, CLEAR, COLORLESS, SLIGHT ETHEREAL ODOR  
Percent Volatiles by Volume: 100 WT%

## Stability

Stability Indicator/Materials to Avoid: YES  
INCOMPATIBLE WITH ALKALI OR ALKALINE EARTH METALS - POWDERED AL, ZN, BE, ETC.  
Stability Condition to Avoid: MATERIAL IS STABLE. HOWEVER, AVOID OPEN FLAMES AND HIGH TEMPERATURES.  
Hazardous Decomposition Products: DECOMPOSITION PRODUCTS ARE HAZARDOUS. "FREON" 114 CAN DECOMPOSE AT HIGH TEMPERATURES (OPEN FLAMES, GLOWING METAL SURFACE, ETC.) FORMING HYDROCHLORIC AND HYDROFLUORIC ACIDS, AND POSSIBLY CARBONYL HALIDES.  
Conditions to Avoid Polymerization: WILL NOT OCCUR

## Disposal

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

## Toxicology

Toxicological Information: ANIMAL DATA: INHALATION 0.5-HR LC50: 720,000 PPM IN RATS. ORAL ALD: >2250 MG/KG IN RATS. COMPOUND IS MILD SKIN AND EYE IRRITANT, UNTESTED FOR ANIMAL SENSITIZATION. TOXIC EFFECTS DESCRIBED IN ANIMAL EXPOSURES BY INHALATION OR INGESTION INCLUDE CNS EFFECTS, CARDIAC SENSITIZATION, RESPIRATORY AND LIVER EFFECTS. MICE EXPOSED FOR 23 MONTHS TO MIX OF CHLOROFLUORO CARBONS INCLUDING 250,000 PPM OF "FREON" 114, DEMONSTRATED NO EVIDENCE OF CARCINOGENIC ACTIVITY. NO ANIMAL TEST REPORTS DEFINE EMBRYOTOXIC, OR REPRODUCTIVE HAZARDS. TESTS IN BACTERIAL OR MAMMALIAN CELL CULTURES DEMONSTRATE NO MUTAGENIC ACTIVITY.

## Other Information

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## Ecology

Ecological: AQUATIC TOXICITY: 96-HOUR LC50, KILLIFISH: 45 PPM.

## Transport

Transport Information: SHIPPING INFORMATION: DOT/ IMO/ IATA: PROPER SHIPPING NAME: 1,2-DICHLORO-1,1,1,1-TETRAFLUOROETHANE, CLASS 2.2, UN1958, LABEL NONFLAMMABLE GAS. SHIPPING CONTAINERS: TANK CARS, TANK TRUCKS, CYLINDERS.

## Regulatory

SARA Title III Information: DISCLOSURE AS A TOXIC CHEMICAL IS REQUIRED UNDER SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372. TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312: ACUTE: YES, CHRONIC: NO, FIRE: NO, REACTIVITY: NO. PRESSURE: NO. LISTS: EXTREMELY HAZARDOUS SUBSTANCE - NO. CRCLA HAZARDOUS SUBSTANCE - NO. TOXIC CHEMICALS - YES. Federal Regulatory Information: TSCA INVENTORY STATUS: REPORTED/INCLUDED.