

ALLIED-SIGNAL INC- ENGINEERED MATERIALS SECTOR -- GENETRON 22  
CHLORODIFLUOROMETHANE -- 6830-00-782-3930

===== Product Identification =====

Product ID:GENETRON 22 CHLORODIFLUOROMETHANE

MSDS Date:11/01/1990

FSC:6830

NIIN:00-782-3930

Status Code:A

MSDS Number: CKCTF

=== Responsible Party ===

Company Name:ALLIED-SIGNAL INC- ENGINEERED MATERIALS SECTOR

Box:1139R

City:MORRISTOWN

State:NJ

ZIP:07962-1139

Country:US

Info Phone Num:201-455-4157/201-455-2000

Emergency Phone Num:201-455-2000

CAGE:05VM8

=== Contractor Identification ===

Company Name:ALLIED-SIGNAL INC

Address:101 COLUMBIA RD

Box:1053

City:MORRISTOWN

State:NJ

ZIP:07962-1053

Country:US

Phone:201-455-4157/201-455-2000

CAGE:05VM8

Company Name:REFRIGERANT RECLAIM SERVICES INC / DBA FULL CYCLE

Address:121 S NORWOOD DR

Box:City:HURST

State:TX

ZIP:76053

Country:US

Phone:817-282-0022

Contract Num:SP0450-00-M-B862

CAGE:0YD89

===== Co

Position/Information on Ingredients =====

Ingredient Name: MONOCHLORODIFLUOROMETHANE

CAS: 75-45-6

RTECS #: PA6390000

= Wt: 100.

ACGIH TLV: 3540 MG/M<sup>3</sup>; 1000 PPM

Ozone Depleting Chemical: 2

===== Hazards Identification =====

Routes of Entry: Inhalation: YES Skin: NO Ingestion: NO

Reports of Carcinogenicity: NTP: NO IARC: NO OSHA: NO

Health Hazards Acute and Chronic: INHALATION: THIS MATERIAL IS LOW IN TOXICITY AT CONCENTRATIONS AS HIGH AS 4% (40,000 PPM). WHEN OXYGEN

LEVELS IN AIR ARE REDUCED TO 12-14%, SYMPTOMS OF ASPHYXIATION WILL OCCUR: LOSS OF COORDINATION, INCREASED PULSE RATE, AND DEEPER RESPIRATION. NARCOTIC EFFECTS HAVE BEEN SEEN AT 2000,000 PPM. INGESTION: NOT APPLICABLE, SINCE MATERIAL IS GASEOUS AT NORMAL TEMPERATURE AND PRESSURE. SKIN: CONTACT WITH LIQUID OR ESCAPING VAPOR CAN CAUSE FROSTBITE, INDICATED BY PALLOR OR REDNESS, LOSS OF SENSATION OR SWELLING. EYES: SAME HAZARDS AS FOR SKIN.

Explanation of Carcinogenicity

: NONE LISTED.

Effects of Overexposure: INHALATION: WHEN OXYGEN LEVELS IN AIR ARE REDUCED TO 12-14%, SYMPTOMS OF ASPHYXIATION WILL OCCUR: LOSS OF COORDINATION, INCREASED PULSE RATE, AND DEEPER RESPIRATION. INGESTION: NOT APPLICABLE, SINCE MATERIAL IS GASEOUS AT NORMAL TEMPERATURE AND PRESSURE. SKIN: CONTACT WITH LIQUID OR ESCAPING VAPOR CAN CAUSE FROSTBITE, INDICATED BY PALLOR OR REDNESS, LOSS OF SENSATION AND SWELLING.

===== First Aid Measures =====

First Aid: INHALATION: REMOVE IMMEDIATELY TO FRESH AIR. IF BREATHING IS STOPPED, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. USE OXYGEN AS REQUIRED, PROVIDED A QUALIFIED OPERATOR IS AVAILABLE. DO NOT GIVE EPINEPHRINE (ADRENALINE). SKIN AND EYE CONTACT: IMMEDIATELY BATHE (DO NOT RUB) ANY FROSTBITE WITH LUKEWARM (NOT HOT) WATER. IN THE ABSENCE OF WATER, COVER WITH SOFT WOOL OR OTHER SUITABLE MATERIAL. CONTACT A PHYSICIAN FOR ANY LOW TEMPERATURE

BURNS FROM LIQUID CONTACT. INGESTION: THIS IS  
IMPROBABLE DUE TO THE LOW (-40.8C) BOILING POINT.

===== Fire Fighting Measures =====

Flash Point:NON-FLAMMABLE

Extinguishing Media:ANY STANDARD AGENT--CHOOSE THE ONE MOST SUITABLE  
FOR SURROUNDING FIRE. THIS MATERIAL ITSELF IS NOT FLAMMABLE.

Fire Fighting Procedures:ALTHOUGH NOT FLAMMABLE, WHEN THIS MATERIAL IS  
IN A FIRE, FIREFIGHTERS SHOULD WEAR SELF-CONTAINED, NIOSH-APPROVED  
BREATHING APPARATUS FOR  
PROTECTION AGAINST SUFFOCATION AND POSSIBLE  
TOXIC DECOMPOSITION PRODUCTS. USE WATER SPRAY TO KEEP FIRE-EXPOSED  
CONTAINERS COOL.

Unusual Fire/Explosion Hazard:WHILE NOT COMBUSTIBLE ITSELF, CONTACT  
WITH CERTAIN METALS AND OXIDIZING MATERIALS (SEE SECTION G) MAY  
PRODUCE EXOTHERMIC REACTIONS OR POTENTIAL EXPLOSIVE COMBINATIONS.  
SEE SECTION K:GENETRON 22/AIR MIXTURES UNDER PRESSURE;AND SECTION  
G; TOXIC DECOMPOSITION PRODUCTS.

===== Accidental Release Measures =====

Spill Release Procedures:USING A SELF-CONTAINED AIR SUPPLY AND  
PROTECTION AGAINST FROSTBITE, PERSONNEL SHOULD ATTEMPT TO CLOSE  
VALVES OR REPAIR SOURCE OF LEAK WITHOUT RISK. IF A LARGE QUANTITY  
IS RELEASED, EVACUATE PERSONNEL AND ALLOW TO DISSIPATE.(NOTE  
SECTIONS FOR HEALTH HAZARDS INVOLVED WITH INHALATION AND CONTACT  
EXPOSURE.)

===== Handling and Storage =====

Handling and Storage Precautions:STORE IN A COOL, DRY, WELL-  
VENTILATED

AREA AWAY FROM HEAT, FLAME OR COMBUSTIBLES. PROTECT CYLINDER AND  
ITS FITTINGS FROM PHYSICAL DAMAGE. STORAGE IN SUBSURFACE LOCATIONS  
SHOULD BE AVOIDED. SEE REFERENCE (D) FOR FURTHER DETAILS ON  
STORAGE..

Other Precautions:THIS PRODUCT CAN CAUSE DEATH OR SERIOUS PERSONAL  
INJURY IF NOT HANDLED PROPERLY. FOLLOW OSHA REGULATIONS FOR  
COMPRESSED GASES (29 CFR 1910.101) AND REFERENCE (D) FOR CYLINDER  
HANDLING. IF USE IN PRESSURE TESTING IS CONTEMPLATED, IT IS

IMPERATIVE TO FOLLOW LIMITATION SET FORTH IN SECTION K.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:NONE GENERALLY REQUIRED FOR NORMALLY VENTED SITUATIONS. FOR UNUSUAL SITUATIONS, WEAR A SUPPLIED-SIR RESPIRATOR OR A SELF-CONTAINED BREATHING APPARATUS. NIOSH-APPROVED. AT HIGH CONCENTRATIONS, ADD A FULL FACEPIECE..

Ventilation:VENTILATION SHOULD BE ADEQUATE TO MEET TLV REQUIREMENTS AND MINIMIZE EXPOSURE SHOULD MATERIAL BE RELEASED INTO THE ATMOSPHERE.

PROVIDE LOCAL EXHAUST AT FILLING

Protective Gloves:WEAR PROTECTIVE, IMPERVIOUS GLOVES WITH PVA OUTER LAYER(2ND CHOICE:NEOPRENE)

Eye Protection:WEAR CHEMICAL SAFETY GOGGLES IF THERE IS ANY REASONABLE POSSIBILITY OF CONTACT

Other Protective Equipment:IMPERVIOUS SHOES AND CLOTHING SHOULD ALSO BE WORN WHERE LEAKAGE IS POSSIBLE. GLOVES, CLOTHING AND SHOES SHOULD BE THERMALLY INSULATED TO PREVENT FREEZING. PROVIDE CONVENIENT WATER SOURCE FOR FIRST-AID

Su

pplemental Safety and Health

SYNONYMS: FLUOROCARBON 22; REFRIGERANT 22; PROPELLANT 22.

===== Physical/Chemical Properties =====

HCC:G3

Boiling Pt:=-40.8C, -41.4F

Melt/Freeze Pt:=-160.C, -256.F

Vapor Pres:136 PSIA221.1C(70F)

Vapor Density:2.98

Spec Gravity:1.21

pH:NEUTRAL

Evaporation Rate & Reference:NA(GAS) BUAC=1

Solubility in Water:0.3@25C

Appearance and Odor:COLORLESS LIQUEFIED GAS WITH FAINT ETHEREAL ODOR AT HIGHER CONCENTRATIONS.

Percent Volatiles by Volume:

100

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

10STRONG OXIDANTS, INCLUDING OXYGEN, GREATLY INCREASE THE RISK OF FIRE OR EXPLOSION IN CASE CONDITIONS SHOULD FAVOR SUCH. (2)ALKALI METALS, SUCH AS SODIUM; CAUSE EXOTHERMIC REACTION. (3)ALKALI EARTH METALS;SUCH AS MAGNESIUM

Stability Condition to Avoid:FLAMES, LIGHTED CIGARETTES, HOT SPOTS, WELDING. DECOMPOSES AT HIGH TEMPERATURES, YIELDING TOXIC GASES.

Hazard

ous Decomposition Products:HALOGENS, HALOGEN ACIDS, CARBON DIOXIDE, CARBON MONOXIDE, AND POSSIBLY CARBONYL HALIDES SUCH AS PHOSGENE.

===== Ecological Information =====

Ecological:SUPPLEMENT TO PSDS: GENETRON 22. PSDS#: 883.

===== Disposal Considerations =====

Waste Disposal Methods:DISPOSAL OF GENETRON 22 CHLORODIFLUOROETHANE MAY BE SUBJECT TO STATE AND LOCAL REGULATIONS. USERS SHOULD REVIEW THEIR OPERATIONS I  
N TERMS OF APPLICABLE STATE AND LOCAL LAWS AND REGULATIONS, THEN CONSU LT WITH APPROPRIATE REGULATORY AGENCIES BEFORE DISCHARGING OR DISPOSING OF WASTE MATERIAL.

===== MSDS Transport Information =====

Transport Information:DOT: PROPER SHIPPING NAME: CHLORODIFLUOROMETHANE.

Disclaimer (provided with this information by the compiling agencies):  
This information is formulated for use by elements of the Department of Defense. The United States of America i  
n no manner whatsoever,  
expressly or implied, warrants this information to be accurate and disclaims all liability for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.