

172556  
DOD Hazardous Materials Information System

DoD 6050.5-L

AS OF July 1998

FSC: 6830  
NIIN: 013446534  
Manufacturer's CAGE: 2A580  
Part No. Indicator: A  
Part Number/Trade Name: REFRIGERANT 12, FREON 12, GENETRON 12, (SUP

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General Information

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Item Name: DICHLORODIFLUOROMETHANE & DIFLUOROETHANE, AZEOTROPIC MIX  
Company's Name: RACON INC  
Company's Street:  
Company's P. O. Box: 198  
Company's City: WICHITA  
Company's State: KS  
Company's Country: US  
Company's Zip Code: 67201  
Company's Emerg Ph #: 415-821-5338  
Company's Info Ph #: 316-524-3245 OR 800-835-2916  
Distributor/Vendor # 1:  
Distributor/Vendor # 1 Cage:  
Distributor/Vendor # 2:  
Distributor/Vendor # 2 Cage:  
Distributor/Vendor # 3:  
Distributor/Vendor # 3 Cage:  
Distributor/Vendor # 4:  
Distributor/Vendor # 4 Cage:  
Safety Data Action Code:  
Safety Focal Point: N  
Record No. For Safety Entry: 001  
Tot Safety Entries This Stk#: 001  
Status: SMJ  
Date MSDS Prepared: 07APR89  
Safety Data Review Date: 19MAY92  
Supply Item Manager:  
MSDS Preparer's Name:  
Preparer's Company:  
Preparer's St Or P. O. Box:  
Preparer's City:  
Preparer's State:  
Preparer's Zip Code:

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Other MSDS Number:  
MSDS Serial Number: BNRMF  
Specification Number:  
Spec Type, Grade, Class:  
Hazard Characteristic Code: N-  
Unit Of Issue:  
Unit Of Issue Container Qty:  
Type Of Container:  
Net Unit Weight:

Report for NIIN: 013446534

NRC/State License Number:  
Net Explosive Weight:  
Net Propellant Weight-Ammo:  
Coast Guard Ammunition Code:

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Ingredients/Identity Information

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Proprietary: NO  
Ingredient: METHANE, DICHLORODIFLUORO-; (DICHLORODIFLUOROMETHANE) (SAR  
A  
III). VP:79.8 PSIG @ 77F. VD:2.32 LB/FT3 @ 77F.  
Ingredient Sequence Number: 01  
Percent: N/K  
Ingredient Action Code:  
Ingredient Focal Point: N  
NIOSH (RTECS) Number: PA8200000  
CAS Number: 75-71-8  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: 1000PPM;1250STEL(MFR  
Other Recommended Limit: N/K  
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Proprietary: NO  
Ingredient: EFTS OF OVEREXPOS:PROPERTIES (ASPHY, CARDIAC ARRHYTHMIAS)  
WHEN  
SNIFFED. SKIN:CONT OF LIQ WILL RESULT IN FREEZING (ING 3)  
Ingredient Sequence Number: 02  
Percent: N/K  
Ingredient Action Code:  
Ingredient Focal Point: N  
NIOSH (RTECS) Number: 9999999ZZ  
CAS Number:  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE  
Other Recommended Limit: N/K

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Proprietary: NO  
Ingredient: ING 2:& FROSTBITE OF CONT TISSUE. EYES:CONT OF VAP WILL RE  
SULT  
IN MILD INFLAMM. INGEST:NOT PROBABLE. FREEZING & (ING 4)  
Ingredient Sequence Number: 03  
Percent: N/K  
Ingredient Action Code:  
Ingredient Focal Point: N  
NIOSH (RTECS) Number: 9999999ZZ  
CAS Number:  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE  
Other Recommended Limit: N/K  
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Proprietary: NO  
Ingredient: ING 3:SEV FROSTBITE OF CONT TISSUE WILL RESULT. CHRONIC:IN  
HAL:  
SIMILAR AS SYMP ACUTE CNS DEPRESS/SEDATION/LOSS OF(ING 5)  
Ingredient Sequence Number: 04  
Percent: N/K  
Ingredient Action Code:  
Ingredient Focal Point: N

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NIOSH (RTECS) Number: 9999999ZZ  
CAS Number:  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE  
Other Recommended Limit: N/K  
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Proprietary: NO  
Ingredient: ING 4:COORDINATION & MILD DEPRESSION. EFTS DISAPPEARED RAP  
IDLY  
AFTER CESSATION. INGEST:A SLIGHT EFT ON LIVER (ING 6)  
Ingredient Sequence Number: 05  
Percent: N/K  
Ingredient Action Code:  
Ingredient Focal Point: N  
NIOSH (RTECS) Number: 9999999ZZ  
CAS Number:  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE  
Other Recommended Limit: N/K  
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Proprietary: NO  
Ingredient: ING 5:FUNCTION IN RATS. CARDIAC STUDIES: CARDIAC SENSIT

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POTENTIAL IS CONSIDERED MOD. AT HIGH CONC CAPABLE OF (ING 7)

Ingredient Sequence Number: 06

Percent: N/K

Ingredient Action Code:

Ingredient Focal Point: N

NIOSH (RTECS) Number: 9999999ZZ

CAS Number:

OSHA PEL: NOT APPLICABLE

ACGIH TLV: NOT APPLICABLE

Other Recommended Limit: N/K

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Proprietary: NO

Ingredient: ING 6:SENSIT HEART TO INJECTED EPINEPHRINE, RESULTING IN  
IRREGULAR HEART BEAT (CARDIAC ARRHYTHMIAS), WHICH (ING 8)

Ingredient Sequence Number: 07

Percent: N/K

Ingredient Action Code:

Ingredient Focal Point: N

NIOSH (RTECS) Number: 9999999ZZ

CAS Number:

OSHA PEL: NOT APPLICABLE

ACGIH TLV: NOT APPLICABLE

Other Recommended Limit: N/K

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Proprietary: NO

Ingredient: ING 7:SOMETIMES HAS BEEN FATAL.

Ingredient Sequence Number: 08

Percent: N/K

Ingredient Action Code:

Ingredient Focal Point: N

NIOSH (RTECS) Number: 9999999ZZ

CAS Number:

Report for NIIN: 013446534

OSHA PEL: NOT APPLICABLE

ACGIH TLV: NOT APPLICABLE

Other Recommended Limit: N/K

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Proprietary: NO

Ingredient: FIRST AID PROC:20 MIN. LIQ:BECAUSE OF DEFATTING EFTS OF PR  
OD,

SKIN & EYE IRRIT MAY OCCUR. FLUSH EXPOSED SKIN & (ING 10)

Ingredient Sequence Number: 09

Percent: N/K

Ingredient Action Code:

Ingredient Focal Point: N

NIOSH (RTECS) Number: 9999999ZZ

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CAS Number:  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE  
Other Recommended Limit: N/K  
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Proprietary: NO  
Ingredient: ING 9:EYES THORO (MIN OF 10-15 MIN) W/LUKE WARM WATER/BALAN  
NCED  
SALINE SOLUTION. IF EYE IRRIT PERSIST, SEE MD. (ING 11)  
Ingredient Sequence Number: 10  
Percent: N/K  
Ingredient Action Code:  
Ingredient Focal Point: N  
NIOSH (RTECS) Number: 9999999ZZ  
CAS Number:  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE  
Other Recommended Limit: N/K  
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Proprietary: NO  
Ingredient: ING 10:INGEST:LIQ:NOT PROBABLE.HOWEVER IF INGEST, KEEP PAT  
IENT  
CALM, IF CONSCIOUS & GET TO MD IMMED. FROSTBITE (ING 12)  
Ingredient Sequence Number: 11  
Percent: N/K  
Ingredient Action Code:  
Ingredient Focal Point: N  
NIOSH (RTECS) Number: 9999999ZZ  
CAS Number:  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE  
Other Recommended Limit: N/K  
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Proprietary: NO  
Ingredient: ING 11:IS PROBABLE, INDICATED BY NECROSIS OF LIPS & TONGUE  
(CONTACTED TISSUE), BLANCHING OF SKIN, PAIN & (ING 13)  
Ingredient Sequence Number: 12  
Percent: N/K  
Ingredient Action Code:  
Ingredient Focal Point: N  
NIOSH (RTECS) Number: 9999999ZZ  
CAS Number:  
OSHA PEL: NOT APPLICABLE

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ACGIH TLV: NOT APPLICABLE  
Other Recommended Limit: N/K

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Proprietary: NO  
Ingredient: ING 12:TENDERNESS. WARM SKIN SLOWLY.  
Ingredient Sequence Number: 13  
Percent: N/K  
Ingredient Action Code:  
Ingredient Focal Point: N  
NIOSH (RTECS) Number: 999999ZZ  
CAS Number:  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE  
Other Recommended Limit: N/K

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Physical/Chemical Characteristics  
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Appearance And Odor: COLORLESS LIQUID & VAPOR WITH VERY SLIGHT ETHEREA  
L  
ODOR/ODORLESS.  
Boiling Point: -22F,-30C  
Melting Point: N/K  
Vapor Pressure (MM Hg/70 F): SEE ING  
Vapor Density (Air=1): SEE ING  
Specific Gravity: 1.31 (WATER =1)  
Decomposition Temperature: N/K  
Evaporation Rate And Ref: NOT APPLICABLE  
Solubility In Water: INSOLUBLE  
Percent Volatiles By Volume: 100  
Viscosity:  
pH: N/K  
Radioactivity:  
Form (Radioactive Matl):  
Magnetism (Milligauss): N/P  
Corrosion Rate (IPY): N/K  
Autoignition Temperature:

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Fire and Explosion Hazard Data  
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Flash Point: NON FLAMMABLE  
Flash Point Method: N/P  
Lower Explosive Limit: N/K  
Upper Explosive Limit: N/K  
Extinguishing Media: MEDIA SUITABLE FOR SURROUNDING FIRE (FP N)  
Special Fire Fighting Proc: WEAR NIOSH/MSHA APPROVED PRESSURE DEMAND S  
CBA

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AND FULL PROTECTIVE EQUIPMENT (FP N).

Unusual Fire And Expl Hazrds: THERMAL DECOMPOSITION PRODUCTS MAY INCLU  
DE

CHLORIDES, FLUORIDES AND PHOSGENE (FP N).

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Reactivity Data

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Stability: YES

Cond To Avoid (Stability): AVOID CONDITIONS WHERE CFC-12 MAY CONTACT O  
PEN

FLAMES OR EXTREMELY HOT METAL SURFACES.

Report for NIIN: 013446534

Materials To Avoid: CERTAIN ELASTOMERS, ALKALI/ALKALINE EARTH METALS,  
POWDERED ALUMINUM, ZINC, BERYLLIUM ETC. MCA REPORTED THAT (SUPDAT)

Hazardous Decomp Products: CHLORIDES, FLUORIDES & PHOSGENE (FP N). HF,  
HCL

& TRACES OF CARBONYL HALIDES.

Hazardous Poly Occur: NO

Conditions To Avoid (Poly): NOT RELEVANT

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Health Hazard Data

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LD50-LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.

Route Of Entry - Inhalation: YES

Route Of Entry - Skin: NO

Route Of Entry - Ingestion: NO

Health Haz Acute And Chronic: CHLOROFLUOROCARBON MATLS HAVE PRODUCED  
SENSIT OF MYOCARDIUM TO EPINEPHRINE IN LAB ANIMALS & COULD HAVE SIMILA  
R EFT

IN HUMANS. ADRENOMETICS (E.G., EPINEPHRINE) MAY BE CONTRAINDICATED EXC  
EPT

FOR LIFE-SUSTAINING USES IN HUMANS ACUTELY/CHRONICALLY EXPOSED TO CFCS  
(FP

N). ACUTE:INHAL:MAY AFFECT RESP/ (EFTS OF OVEREXP)

Carcinogenicity - NTP: NO

Carcinogenicity - IARC: NO

Carcinogenicity - OSHA: NO

Explanation Carcinogenicity: NOT RELEVANT

Signs/Symptoms Of Overexp: HLTH HAZ:CARDIOVASCULAR SYS. MAY CAUSE TING  
LING

SENSATION, HUMMING IN EARS, APPREHENSION & SLURRED SPEECH, DECREASE IN  
CONSCIOUSNESS W/AMNESIA, IRREGULAR HEART BEAT, EYE IRRIT, CNS EFTS.

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SNIFFING OF FLUOROCARBON PROPELLANTS FOR THEIR INTOX EFTS HAS PRODUCED OVER

100 DEATHS. FLUOROCARBONS EXHIBIT VERY TOX (ING 2)

Med Cond Aggravated By Exp: INDIVIDUALS W/HEART OR RESPIRATORY DISORDERS

MAY BE ESPECIALLY SUSCEPTIBLE TO HEALTH HAZARDS.

Emergency/First Aid Proc: INHAL:REMOVE TO FRESH AIR. KEEP WARM & AT REST.

IF BRTHG IS DFCLT (LABORED), GIVE O\*2. IF NOT BRTHG, GIVE ARTIF RESP & CHECK FOR PULSE. IF NO PULSE START CPR. DO NOT GIVE STIMULANTS (ADRENALINE,

EPINEPHRINE/HAND HELD ASTHMA AEROSOLS). CALL 911 (IF AVAILABLE) & MD. KEEP

PATIENT AT REST FOR 24 HRS AFTER OVEREXPOS. NO LONG TERM EFTS ARE EXPECTED.

EYE/SKIN:VAP:FLUSH WITH WATER FOR AT LEAST (ING 9)

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Precautions for Safe Handling and Use

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Steps If Matl Released/Spill: KEEP UPWIND. VENTILATE ENCLOSED SPACES UNTIL

GAS IS DISPERSED. DO NOT SMOKE OR OPERATE INTERNAL COMBUSTION ENGINES IN

IMMED VICINITY.

Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.

Waste Disposal Method: DISPOSAL MUST BE IN ACCORDANCE WITH LOCAL, STATE

AND FEDERAL REGULATIONS (FP N). EPA HAZ WASTE# U075. WHEN REMOVED FROM REFRIDGERATION SYSTEM, MAY BE HAZARDOUS WASTE. CONSULT 40 CFR 261, 262

Precautions-Handling/Storing: DO NOT BRTH VAP. AVOID CONT W/EYES, SKIN &

CLTHG. STORE IN COOL PLACE (<120F). STORE & USE W/ADEQ VENT. LIQUIFIED

COMPRESSED GAS.

Other Precautions: NOT FOR FOOD/DRUG/COSMETIC USE. NO SMOKING IN AREA OF

USE. DO NOT USE IN GENERAL VICINITY OF ARC WELDING, OPEN FLAMES/HOT SURFACES. HEAT AND/OR UV RADIA MAY CAUSE FORMATION OF CHLORIDES, FLUORIDES

AND/OR PHOSGENE (FP N).

Report for NIIN: 013446534

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Control Measures

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Respiratory Protection: RESP PROT IS NOT NEEDED IF CONC ARE CONTROLLED  
. IF  
CON EXCEED TLV (1000 PPM) USE A NIOSH/MSHA APPRVD RESP FOR ORGANIC VAP  
. IN  
VERY HIGH CONC, SCBA SHOULD BE USED.  
Ventilation: LOCAL EXHAUST MAY BE NECESSARY TO REDUCE CONC BELOW TLV (  
1000  
PPM).  
Protective Gloves: CLOTH-LINED RUBBER GLOVES.  
Eye Protection: CHEMICAL WORKERS GOGGLES (FP N).  
Other Protective Equipment: PROTECTIVE CLOTHING SHOULD MIN EXPOSED SKI  
N &  
INCLUDE FULL FACE SHIELD IF SPLASHING IS POSSIBLE.  
Work Hygienic Practices: NONE SPECIFIED BY MANUFACTURER.  
Suppl. Safety & Health Data: MFR'S TRADE NAME/PART NO:FLUOROCARBON 12,  
CFC-12, R-12. MATL TO AVOID:ALKALI & ALKALINE EARTH METALS (I E SODIUM  
/  
POTASSIUM & BARIUM) IN THEIR FREE METALLIC FORM MAY REACT VIOLENTLY W/  
FLUOROCARBONS. MATLS BECOME MORE REACTIVE WHEN FINELY GROUND. METALS S  
UCH  
AS MN & AL IN POWDER FORM MAY ALSO REACT, ESP AT HIGH TEMP.

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Transportation Data

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Transportation Action Code:  
Transportation Focal Point: N  
Trans Data Review Date: 93068  
DOT PSN Code: MPU  
DOT Symbol:  
DOT Proper Shipping Name: REFRIGERANT GASES, N.O.S.  
DOT Class: 2.2  
DOT ID Number: UN1078  
DOT Pack Group:  
DOT Label: NONFLAMMABLE GAS  
DOT/DoD Exemption Number:  
IMO PSN Code: NAP  
IMO Proper Shipping Name: REFRIGERANT GAS, N.O.S. o  
IMO Regulations Page Number: 2176  
IMO UN Number: 1078  
IMO UN Class: 2(2.2)  
IMO Subsidiary Risk Label: -  
IATA PSN Code: VQM  
IATA UN ID Number: 1078

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IATA Proper Shipping Name: REFRIGERANT GAS, N.O.S. \*  
IATA UN Class: 2.2  
IATA Subsidiary Risk Class:  
IATA Label: NON-FLAMMABLE GAS  
AFI PSN Code: VQM  
AFI Symbols:  
AFI Prop. Shipping Name: REFRIGERANT GASES, N.O.S.  
AFI Class: 2.2  
AFI ID Number: UN1078  
AFI Pack Group:  
AFI Label:  
AFI Special Prov:  
AFI Basic Pac Ref: 6-6,6-8

Report for NIIN: 013446534

MMAC Code:  
N.O.S. Shipping Name:  
Additional Trans Data:

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Disposal Data

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Disposal Data Action Code:  
Disposal Data Focal Point:  
Disposal Data Review Date:  
Rec # For This Disp Entry:  
Tot Disp Entries Per NSN:  
Landfill Ban Item:  
Disposal Supplemental Data:  
1st EPA Haz Wst Code New:  
1st EPA Haz Wst Name New:  
1st EPA Haz Wst Char New:  
1st EPA Acute Hazard New:  
2nd EPA Haz Wst Code New:  
2nd EPA Haz Wst Name New:  
2nd EPA Haz Wst Char New:  
2nd EPA Acute Hazard New:  
3rd EPA Haz Wst Code New:  
3rd EPA Haz Wst Name New:  
3rd EPA Haz Wst Char New:  
3rd EPA Acute Hazard New:

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Label Data

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Label Required: YES  
Technical Review Date: 15MAY92  
Label Date: 12MAY92  
MFR Label Number:  
Label Status: G  
Common Name: REFRIGERANT 12, FREON 12, GENETRON 12, (SUPDAT)  
Chronic Hazard: YES  
Signal Word: WARNING!  
Acute Health Hazard-None:  
Acute Health Hazard-Slight:  
Acute Health Hazard-Moderate: X  
Acute Health Hazard-Severe:  
Contact Hazard-None:  
Contact Hazard-Slight:  
Contact Hazard-Moderate: X  
Contact Hazard-Severe:  
Fire Hazard-None: X  
Fire Hazard-Slight:  
Fire Hazard-Moderate:  
Fire Hazard-Severe:  
Reactivity Hazard-None:  
Reactivity Hazard-Slight: X  
Reactivity Hazard-Moderate:  
Reactivity Hazard-Severe:  
Special Hazard Precautions: AVOID CERTAIN ELASTOMERS, ALKALI/ALKALINE

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EARTH METALS, POWDERED ALUMINUM, ZINC, BERYLLIUM, ETC. ACUTE: INHAL MAY CAUSE RESPIRATORY/CARDIOVASCULAR EFFECTS, TINGLING SENSATION, HUMMING IN EARS, SLURRED SPEECH, DECREASED CONSCIOUSNESS, AMNESIA, IRREGULAR HEARTBEAT, ASPHYXIATION/DEATH. CONTACT W/LIQUID WILL CAUSE FROSTBITE/FREEZING, NECROSIS, BLANCHING, PAIN, TENDERNESS TO TISSUE. CHRONIC: MAY CAUSE SENSITIZATION TO INJECTED EPINEPHRINE CAUSING CARDIAC ARRHYTHMIA S.

Protect Eye: Y  
Protect Skin: Y  
Protect Respiratory: Y  
Label Name: RACON INC  
Label Street:  
Label P.O. Box: 198  
Label City: WICHITA  
Label State: KS  
Label Zip Code: 67201  
Label Country: US  
Label Emergency Number: 415-821-5338  
Year Procured:

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