

ALLIED-SIGNAL INC/ENGINEERED MATERIALS SECTOR -- GENETRON (R) 502 AZEOTROPE --
6830-00-144-9952

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

Product ID:GENETRON (R) 502 AZEOTROPE

MSDS Date:05/01/1989

FSC:6830

NIIN:00-144-9952

MSDS Number: BNPLK

=== 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

Emergency Phone Num:201-455-2000

Preparer's Name:N/K AZEOTRPOIC MIXTURE

CAGE:0B7T5

=== Contractor Identification ===

Company Name:HONEYWELL INTL INC

Address:101 COLUMBIA RD

Box:City:MORRISTOWN

State:NJ

ZIP:07960

Country:US

Phone:201-455-2000/800-707-4555

CAGE:0B7T5

Company Name:REFRIGERATION SALES CO INC

Address:38-18 33RD ST

Box:City:LONG ISLAND CITY

State:NY

ZIP:11101-2211

Country:US

Phone:800-221-0603

CAGE:3A676

Company Name:WITCO CHEMICAL GOLDEN BEAR DIVISION

Address:10100 SANTA

MONICA BLVD SUITE 1470
Box:City:LOS ANGELES
State:CA
ZIP:90067
Country:US
Phone:800-393-7110
CAGE:70708

=====
Composition/Information on Ingredients
=====

Ingred Name:CHLORODIFLUOROMETHANE (GENETRON 22) (VAPOR PRESSURE 136
PSIG @ 70 F)
CAS:75-45-6
RTECS #:PA6390000
Fraction by Wt: 48.8%
Other REC Limits:NONE SPECIFIED
OSHA PEL:1000 PPM
ACGIH TLV:1000 PPM
Ozone Depleting Chemical:2

Ingred Name:CHLOROPENTAFLUOROETHANE (GENETRON 115) (VAPOR PRESSURE 102
PSIG @ 70 F)
CA
S:76-15-3
RTECS #:KH7877500
Fraction by Wt: 51.2%
Other REC Limits:NONE SPECIFIED
OSHA PEL:1000 PPM
ACGIH TLV:1000 PPM
Ozone Depleting Chemical:1

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

LD50 LC50 Mixture:N/K #EXPLOSIVE COMBINATIONS.
Routes of Entry: Inhalation:YES Skin:YES Ingestion:NO
Health Hazards Acute and Chronic:INHAL: VAPORS CAN ASPHYXIATE AT HIGH
CONCENTRATIONS BY DISPLACEMENT OF OXYGEN IN AIR FOR BREATHING.
EXPOSURE TO VERY HIGH CONCENTRATIO
NS MAY PRODUCE NARCOSIS, HEART
PALPITATIONS OR ARRHYTHMIAS. INGEST ION: NOT PERTINENT, SINCE
MATERIAL IS GASEOUS AT NORMAL TEMPERATURES AND PRESSURE. SKIN:
CONTACT WITH COLD LIQUID OR###
Explanation of Carcinogenicity:N/K ##EARTH METALS, SUCH AS SODIUM,
POTASSIUM, BARIUM, ETC. (CAUSE EXOTHERMIC REACTION).
Effects of Overexposure:###ESCAPING GAS CAN CAUSE FROSTBITE, INDICATED
BY PALLOR OR REDNESS, LOSS OF SENSATION AND SWELLING OF AFFECTED
AREAS. IF NO FROSTBITE, IRRITATIO

N CAUSED BY DEFATTING OF TISSUE

MAY BE EXPERIENCED. EYE S: SAME EFFECT FROM LIQUID CONTACT AS FOR SKIN.

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

First Aid:INHAL: MOVE IMMEDIATE TO FRESH AIR. IF BREATH STOPPED-GIVE MOUTH-TO-MOUTH RESUSCITATION. GIVE OXYGEN, AS NECESSARY, PROVIDED A QUALIFIED OPERATOR IS AVAILABLE. CALL DR. DONT GIVE EPINEPHRINE (ADRENALIN). SKIN/EYE: IMMEDIATE BATHE ANY FROSTBITE (DONT RUB) W/LUKEWARM WTR. IN ABSENCE OF WTR, COVER W/ SOFT WOOL/SUITABLE MATL. CALL DR FOR LOW TEMP BURNS FROM LIQ CONTACT. IF NO FROSTBITE, IMMEDIATE FLUSH CONTACT\$

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

Extinguishing Media:ANY STANDARD AGENT--CHOOSE THE ONE MOST SUITABLE FOR SURROUNDING FIRE (THIS MATERIAL ITSELF IS NOT FLAMMABLE).
Fire Fighting Procedures:WEAR SELF-CONTAINED, NIOSH APPROV BREATHING APPARATUS FOR PROTECT AGAINST SUFFOCATION/POSS TOXIC DECOMP PROD. PROPER EYE PROTECT/CLOTHING SHOULD BE PROVIDED.
Unusual Fire/Explosion Hazard:CNTNRS MAY RUPTURE IN FIRE DUE TO OVERPRESS, RELEASING LG VOL OF GAS/VAPOR. CONTACT W/CERTAIN METALS & OXIDIZING MATL MAY PROD EXOTHERMIC REACTIONS/POTENTIAL#

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

Spill Release Procedures:USE SELF CONTAINED AIR SUPPLY/PROTECT AGAINST FROSTBITE, INVOLVED PERSONNEL SHOULD ATTEMPT TO CLOSE VALVES/REPAIR SOURCE OF LEAK/REMOVE ANY OPEN FLAMES, IF W/OUT RISK & PROVIDE ADEQUATE VENT. UNPROTECT PERSONNEL SHOULD BE REMOVED FROM AREA. IF LARGE\$\$
Neutralizing Agent:N/K \$AREAS W/LG AMT OF WTR. EYE: LIFT LIDS DURING WASH FOR 15 MINS. REMOVE CLOTH

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

Handling and Storage Precautions:DONT BREATHE GAS. AVOID CONTACT W/EYES/SKIN/ CLOTHING. DONT PUNCTURE/DROP OR EXPOSE CYLINDERS TO OPEN FLAME/EXCESS HEAT. USE AUTHORIZED CNTNRS ONLY.\$
Other Precautions:PROD CAN CAUSE SERIOUS PERSONAL INJURY/DEATH IF

NOT

HANDLED PROPERLY. FOLLOW OSHA REG FOR COMPRESSED GASES & AIRBORNE CONTAMINANTS (29CFR1910.101) FOR CYLINDER HANDLING.

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

Respiratory Protection:NONE GENERALLY REQUIRED FOR ADEQUATELY VENTED WORK SITUATIONS, FOR ACCIDENTAL OR NON-VENTILATED SITUATIONS, WHERE CONC EXCEED 1000PPM, USE SCBA OR SUPPLIED AIR RESPIRATOR, APPROVED BY NIOSH. AT HIGH CONCENTRATIONS, ADD A FULL FACEPIECE.

Ventilation:ADEQ TO MEET AC

GIH/TLV REQ/MINIMIZE EXPOS SHOULD NOT BE RELEASED INTO ATMOSPHERE. PROVIDE LOCAL EXHAUST AT FILLING

Protective Gloves:IMPERVIOUS, NEOPRENE.

Eye Protection:SAFETY GLASS/CHEM SAFETY GOG/NO CONTACT LENS

Other Protective Equipment:IMPERVIOUS CLOTHING WITH THERMAL INSULATION UNDERNEATH. CONTAMINATED WITH LIQUID MATERIAL AND WASH BEFORE REUSE.

Work Hygienic Practices:N/K ZONES/WHERE LEAKAGE IS PROBABLE. MECHANICAL (GENERAL) VENT MAY BE ADEQ FOR OTHER OPERATING/STORAGE AREAS.

Supplemental

Safety and Health

\$\$\$FOLLOW LABEL INSTRUCT/OBSERVE STANDARD SAFETY PRECAUTIONS FOR HANDLING CYLINDER OF COMPRESS GAS. STORE IN COOL/DRY/ WELL VENT AREA AWAY FROM HEAT/FLAME/COMBUST. PROTECT CYLINDER/FITTINGS FROM PHYSICAL DAMAGE. STORAGE IN SUBSURFACE LOCATIONS SHOULD BE AVOIDED. KEEP VALVE TIGHTLY CLOSED AFTER USE/WHEN EMPTY.

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

HCC:G3

Boiling Pt:B.P. Text:-45.4C

Vapor Pres:137.6 PSIG

Vapor Density:3.93 @ 1#

Spec Grav

Density:1.258 (LIQUID)

Solubility in Water:SLIGHT

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

STRONG OXIDANTS, INCLUDE HALOGENS, HOT REACTIVE METALS: MOLTEN ALUMINUM/BARIUM SHAVINGS/LITHIUM. DON'T EXPOSE TO ALKALINE##

Stability Condition to Avoid:FIRES, HOT SURFACES, LIGHTED CIGARETTES, WELDING. HIGH

TEMPERATURES CAUSE DECOMPOSITION, YIELDING TOXIC GASES.

Hazardous Decomposition Products:BY ANALOGY: FLUOROCARBONS, DECOMP PROD HALOGENS/HALOGEN ACIDS/CARBONYL HALIDES (PHOSGENE/CARBON MONOXIDE/CARBON DIOXIDE)

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

Waste Disposal Methods:N/K \$\$QUANTITY IS RELEASED, EVAC PERSONNEL & ALLOW TO DISSIPATE AT A RATE, IF POSSIBLE, THAT WILL NOT EXCEED TLV LIMITS. ANY RELEASE TO THE ENVIRON OF THIS MATL MAY BE SUBJECT T

O

FEDERAL.STATE REPORTI NG REQUIREMENTS. CHECK WITH APPROPRIATEAGENCIES

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 in 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 re sponsibility for the suitability of this information to their particular situation.