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Product ID:FORANE (R) 114

MSDS Date:03/11/1992

FSC:6830

NIIN:00-088-3385

MSDS Number: BTKNQ === Responsible Party ===

Company Name: ELF ATOCHEM NORTH AMERICA INC

Address:3 PARKWAY City:PHILADELPHIA

State:PA

ZIP:19102-1321 Country:US

Info Phone Num:215-587-7639

Emergency Phone Num:215-587-7639

CAGE:86460

=== Contractor Identification === Company Name:DDRV STOCK MAINTENANCE DIV/DDRV-H

Address:8000 JEFFERSON-DAVIS HIGHWAY

Box:City:RICHMOND

State:VA ZIP:23297 Country:US

Phone:804-279-3125

CAGE:02LX8

Company Name: ELF ATOCHEM NORTH AMERICA INC

Address: 2000 MARKET STREET

Box:City:PHILADELPHIA

State:PA

ZIP:19103-3222 Country:US

Phone:800-245-5858

CAGE:86460

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

Ingred Name:1,2-DICHLOROTETRAFLUOROETHANE

CAS:76-14-2

RTECS #:KI1101000 Fraction by Wt: 100%

Other REC Limits: NONE RECOMMENDED

OSHA P

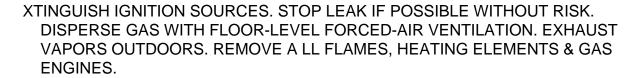
EL:1000 PPM ACGIH TLV:1000 PPM; 9394 Ozone Depleting Chemical:1 ========== Hazards Identification =========================== LD50 LC50 Mixture:ORAL LD50 (RAT) IS 2,250 MG/KG Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO Health Hazards Acute and Chronic:EYE-IRRITANT. SKIN-IRRITANT. Explanation of Carcinogenicity: THIS PRODUCT DOES NOT CONTAIN ANY COMPONENETS LISTED BY NTP OR IARC OR REGULATED BY OSHA AS CARCINOGENS. Effects of Overexposure: EYE-VAPOR IS IRRITATING TO EYES. LIQUID IS IRRITATING TO EYES & MAY CAUSE TISSUE TO FREEZE. SKIN-CONTACT WITH LIQUID MAY CAUSE TISSUE TO FREEZE (FROST BITE). CHEMICAL ITSELF IS NOT IRRITATING. Medical Cond Aggravated by Exposure: NONE SPECIFIED BY MANUFACTURER. First Aid:INGESTION-N/A, PRODUCT IS A GAS AT AMBIENT CONDITIONS. NEVER GOVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. DERMAL-**FLUSH** EXPOSED SKIN WITH LUKEWARM WATER (NOT HOT) OR USE OTHER MEANS TO WARM SKIN S LOWLY. EYE-FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MIN. INHALATION-REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF HARD TO BREATH, GIVE OXYGEN. GET MEDICAL ATTENTN IN ALL CAS =========== Fire Fighting Measures ========================== Flash Point: NONFLAMMABLE Extinguishing Media: USE EXTINGUISHING MEDIA APPROPIATE TO SURROUNDING FIRE CONDITIONS. Fire Figh ting Procedures: WEAR SELF-CONTAINED BREATHING APPARATUS IN FIGHTING FIRES NEAR THIS PRODUCT DUE TO TOXICITY OF THERMAL

DECOMPOSITION PRODUCTS. KEEP CONTAINERS COOL.

Unusual Fire/Explosion Hazard: MAY DECOMPOSE DURING HEATING RELEASING IRRITATING, TOXIC & CORROSIVE GASES. CONTAINERS MAY EXPLODE IF HEATED DUE TO RESULTING PRESSURE RISE.

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

Spill Release Procedures: KEEP UPWIND, EVACUATE ENCLOSED SPACE. REMOVE OR E



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

Handling and Storage Precautions: KEEP AWAY FROM HEAT, SPARKS & FLAMES. STORE IN TIGHTLY CLOSED CONTAINERS. KEEP CONTAINERS CLOSED. EMPTY CONTAINER MAY CONTAIN HAZARDOUS RESIDUES.

Other Precautions: TOXICITY COMMENTS:

DENSE VAPOR DISPLACES BREATHING

AIR IN CONFINED OR UNVENTILATED AREAS. INHALING CONCENTRATED VAPORS CAN CAUSE DROWSINESS, UNCONSCIOUSNESS, RESPIRATORY DEPRESSION AND DEATH DUE TO AS PHYXIATION.

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

Respiratory Protection:IF INADEQUATELY VENTILATED AREAS, A NIOSH/MSHA APPROVED (TC-19C) SUPPLIED AIR RESPIRATOR OR SELF-CONTAINED BREATHING APPARATUS IS REQUIRED.

Ventilation:USE WITH ADEQUATE VENTILATION. WHERE VEN TILATION IS

INADEQUATE, USE A LOCAL EXHAUST SYSTEM TO REMOVE VAPORS.

Protective Gloves: SYNTHETIC RUBBER SUCH AS NEOPRENE, LINED

Eye Protection: USE GOGGLES TO PROTECT EYES.

Other Protective Equipment: PROTECT ALL EXPOSED SKIN FROM LIQUID.

Work Hygienic Practices:WASH THOROUGHLY AFTER HANDLING AND BEFORE EATING, DRINKING OR SMOKING. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

Supplemental Safety and Health

DO NOT GET ON SKIN OR IN EYES. DO NOT BREATHE VAPORS OR MIST. DESTROY CONTAMI

NATED SHOES. DO NOT SMOKE. READ LABEL BEFORE USE. DO NOT CUT, GRIND OR WELD ON OR NEAR CONTAINER DUE TO POSSIBLE TOXIC FUME S GENERATION.

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

HCC:G3

Boiling Pt:=3.8C, 38.7F B.P. Text:38.8F,3.8C

Melt/Freeze Pt:=-93.9C, -137.F

M.P/F.P Text:-137F,-94C

Vapor Pres:27.26 PSIA

Vapor Density:5.9 Spec Gravity:1.44

Solubility in Water:SLIGHT

Appearance and Odor: COLORLESS LIQUIDFIED GAS WITH FAINT ETHERAL ODOR.

Percent Volatiles by

Volume:100		

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

Stability Indicator/Materials to Avoid:YES

STRONG ALKALI OR ALKALINE EARTH METALS, FINELY POWDERED METALS SUCH AS ALUMINUM, MAGNESIUM OR ZINC & STRONG OXIDIZERS.

Stability Condition to Avoid:THERMAL DECOMPOSITION DUE TO EXPOSURE TO HEAT (>800F) OR FIRE.

Hazardous Decomposition Products:THERMAL DECOMPOSITION PRODUCTS INCLUDE HYDROGEN FLUORIDE, HYDROGEN CHLORIDE, CARBON MONOXIDE, CARBON DIOXIDE, CHLORI

NE.

Conditions to Avoid Polymerization:FLAMES, IGNITION SOURCES, HEATING ELEMENTS, COMBUSTION EHGINES, ETC.

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

Waste Disposal Methods:RECYCLE OR RECALIM IF POSSIBLE. RECLAIM MATERIAL MAY BE INCINERATED BUT TOXIC AND CORROSIVE COMBUSTION PRODUCTS (HF AND HCL) MUST BE HANDLED APPROPIATELY. CONSULT FEDERAL, STATE AND LOCAL AUTHORITIES FOR PROPER DISPOSAL.

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