

ELF ATOCHEM NORTH AMERICA INC -- FORANE (R) 114 -- 6830-00-088-3385

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

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 #:KI11010

00

Fraction by Wt: 100%

Other REC Limits:NONE RECOMMENDED

OSHA PEL: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 Measures =====

First Aid:INGESTION-N/A, PRODUCT IS A GAS AT AMBIENT CONDITIONS. NEV
ER

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 EXTINGUISHIN

G MEDIA APPROPRIATE TO SURROUNDING
FIRE CONDITIONS.

Fire Fighting 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 EXTINGUISH IGNITION SOURCES. STOP LEAK IF POSSIBLE WITHOUT RISK. DISPERSE GAS WITH FLOOR-LEVEL FORCED-AIR VENTILATION. EXHAUST VAPORS OUTDOORS. REMOVE ALL FLAMES, HEATING ELEMENTS & GAS ENGINES.

===== 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 ASPHYXIATION.

===== 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 VENTILATION 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. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.

Supplemental Safety and Health

DO NOT GET ON SKIN

OR IN EYES. DO NOT BREATHE VAPORS OR MIST. DESTROY

CONTAMINATED SHOES. DO NOT SMOKE. READ LABEL BEFORE USE. DO NOT CUT, GRIND OR WELD ON OR NEAR CONTAINER DUE TO POSSIBLE TOXIC FUMES 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

SS LIQUIDIFIED 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, CHLORINE.

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 APPROPRIATELY. CONSULT FEDERAL, STATE AND LOCAL AUTHORITIES FOR PROPER DISPOSAL.

L.

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 responsibility for the suitability of this information to their particular situation.