Product ID:1,1,2-TRICHLOROTRIFLUOROETHANE, 99+% MSDS Date:02/08/1994 FSC:6850 NIIN:00-681-5688 **MSDS Number: BVHDT** === Responsible Party === Company Name: ALDRICH CHEMICAL CO INC. Address:1001 W. ST. PAUL AVE Box:355 City:MILWAUKEE State:WI ZIP:53201 Country:US Info Phone Num:414-273-3850/FAX -4979 Emergency Phone Num:414-273-3850 CAGE:60928 == = Contractor Identification === Company Name: ALDRICH CHEMICAL CO INC Address:1001 WEST ST PAUL AVE Box:355 City:MILWAUKEE State:WI ZIP:53233 Country:US Phone:414-273-3850 CAGE:60928 Ingred Name:1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE (FREON 113) (SARA III) CAS:76-13-1 RTECS #:KJ4000000 Other REC Limits:NONE RECOMMENDED OSHA PEL:1000PPM ACGIH TLV:1000PPM/1250STEL9394 **Ozone Depleting Chemical:1**

====== Hazard

LD50 LC50 Mixture:ORAL LD50 (RAT) IS 43 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:MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION. MAY CAUSE IRRITATION. Explanation of Carcinogenicity:NOT CARCINOGENIC. Effects of Overexposure:PROLONGED EXPOSURE CAN CAUSE: NARCOTIC EFFECTS. Medical Cond Aggravated by Exposure:NONE SPECIFIED BY MANUFACT URER.

First Aid:IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MIN WHILE REMOVING CONTAMINATED CLOTHING & SHOES. IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIV E ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICLUT, GIVE OXYGEN. IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSIOUS. CALL A PHYSICIAN. WASH CONTAMINATED CLOTHING BEFORE R

EUSE.

Flash Point:NONE

Autoignition Temp:Autoignition Temp Text:1256F

Extinguishing Media: USE EXTINGUISHING MEDIA APPROPIATE TO SURROUNDING FIRE CONDITIONS.

Fire Fighting Procedures:WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES. Unusual Fire/Explosion Hazard:EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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Spill Release Procedures: EVACUATE AREA. WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES. ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL. VENTILATE AREA AND WASH SPILL S ITE AFTER MATERIAL PICKUP IS COMPLETE.

Handling and Storage Precautions:STORE IN A COOL DRY PLACE. KEEP TIGHTLY CLOSED. WASH THOROUGHLY AFTER HANDLING. DO NOT GET IN EYES, ON SKIN , ON CLOTHING. DO NOT BREATHE VAPOR. Other Precautions:THIS MATERIAL CAN REACT VIOLENTLY WITH ACTIVE METALS SUCH AS SODIUM, POTASSIUM, CALCIUM, BARIUM & WITH FINELY DIVIDED METALS SUCH AS ALUMINUM MAGNESIUM, ZINC & BERYLLIUM. CONTACT WITH MAGNESIUM ALLOYS WITH MORE THAN 2% MAGNESIUM MAY DECOMP.

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

Respiratory Protection:WEAR APPROPIATE NIOSH/MSHA-APPROVED RESPIRATOR. Ventilation:MECHANICAL EXHAUST REQUIRED. Protectiv e Gloves:CHEMICAL-RESISTANT GLOVES. Eye Protection:SAFETY GOGGLES. Other Protective Equipment:OTHER PROTECTIVE CLOTHING. SAFETY SHOWER AND EYE BATH. Work Hygienic Practices:WASH THOROUGHLY AFTER HANDLING. Supplemental Safety and Health NONE

HCC:N1 Boiling Pt:B.P. Text:117F,47C Melt/Freeze Pt:M.P/F.P Text:-31F,-35C Vapor Pres:5.5 PSI Vapor Density:2.39 Spec Gravity:1.570 Appearance and Odor:COLORLESS LIQUID.

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Stability Indicator/Materials to Avoid:YES
FINELY POWDERED METALS, ALUMINUM, MAGNESIUM, ZINC. REACTS VIOLENTLY WITH SODIUM, POTASSIUM.
Stability Condition to Avoid:NONE SPECIFIED BY MANUFACTURER.
Hazardous Decomposition Products:TOXIC FUMES OF: CARBON MONOXIDE, CARBON DIOXIDE, HYDROGEN CHLORIDE GAS, HYDROGEN FLUORIDE.

Waste Disposal Methods: DISSOLVE OR MIX THE MAT

ERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONEMNTAL REGULATIONS.

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