



ALDON CORPORATION

MATERIAL SAFETY DATA SHEET

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MSDS No. TT 280
Effective Date May 24, 1999

SECTION V HEALTH HAZARD DATA

TT 280

Threshold Limited Value TWA: (ACGIH 1992-93) 1,000 ppm (Air); 7,670 mg/m³ (Air). Human, Inhalation TCLo 4500 ppm (Central Nervous System). Rat, oral LDLo 45 mg/kg. STEL: 1,250 ppm; 9,590 mg/m³.

Effects of Overexposure **TARGET ORGANS AFFECTED:** Heart, central nervous system. **INHALATION:** It is an anesthetic and inhalation of high concentrations can produce asphyxiation. At levels of about 2500 ppm in air there begins to be interference with psychological and psychomotor functions, expressed as excitement and incoordination. Possible cardiac arrhythmias at high concentration. **SKIN:** Repeated or prolonged skin contact will cause defatting and possible dermatitis. **EYES:** Contact with liquid produces irritation and mild conjunctivitis.

Emergency and First Aid Procedures **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. Advise against use of epinephrine-type drugs. **SKIN:** Flush thoroughly with soap and water. Apply lanolin-type cream. **EYES:** Flush thoroughly with water for 15 minutes, lifting lower and upper eyelids occasionally. If irritation persists, get medical attention. **INGESTION:** Do NOT induce vomiting. Contact a physician immediately; advise against use of epinephrine-type drugs. Never give anything by mouth to an unconscious person.

SECTION VI REACTIVITY DATA

Stability **Unstable** **Conditions to Avoid** Excessive temperature and heat.
Stable X

Incompatibility (Materials to Avoid) It can react violently with active metals such as sodium, potassium and barium; and finely divided aluminum, zinc, magnesium and beryllium can also react, especially at high temperatures.

Hazardous Decomposition Products Thermal-oxidative decomposition begins at about 250°C to give halogen acids, halogens and carbonyl halides which are toxic and corrosive.

Hazardous Polymerization **Conditions to Avoid**
May Occur **Will Not Occur** Not applicable.
X

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled Evacuate area and remove ignition sources. Provide ventilation. If necessary, wear self-contained breathing apparatus. **Small spills:** using proper ventilation to evaporate. **Large spills:** up to four (4) liters, absorb in absorbing material such as vermiculite, sand, earth, etc. Remove for evaporation in ventilation hood or to an area remote from building and people.

Waste Disposal Method Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

Waste solvent should be recovered when possible by filtration and distillation processes or disposed of via a licensed waste disposal company.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type) In the laboratory work in ventilation hood. NIOSH/MSHA-approved self-contained breathing apparatus should be available for emergency use.

Ventilation **Local Exhaust** Recommended. **Special** No.
Mechanical (General) Recommended. **Other** No.

Protective Gloves Polyvinyl alcohol, Neoprene, Vitron. **Eye Protection** Chemical safety glasses.

Other Protective Equipment Goggles, lab coat, apron, ventilation hood, proper gloves, eye wash station.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing Store in sealed containers in a cool (below 125°F), well-ventilated place. Keep vapors of this material away from flames, arc welding, high temperature surfaces, etc., to avoid toxic and corrosive decomposition products.
Keep container tightly closed when not in use.

Other Precautions Read label on container before using. Do not wear contact lenses when working with chemicals. Space heaters in an atmosphere containing halocarbon vapors well below the TLV can suffer extensive corrosion damage in the combustion and chimney area. No smoking in the area of use. Remove and wash contaminated clothing.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Revision No. 6 **Date** 5/24/99 **Approved** Michael Raszeja **Chemical Safety Coordinator** MR

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. * Hazardous Materials Industrial Standards. Printed on recycled paper.

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	TRICHLOROTRIFLUOROETHANE
Chemical Synonyms	TF, Freon® 113, TTE
Formula	CCl ₂ F-CCIF ₂
Unit Size	up to 3.785 Lt.
C.A.S. No.	76-13-1

CHEMTREC
800-424-9300
Day 716-226-6177

NFPA HAZARD RATING
LEAST SLIGHT MODERATE HIGH EXTREME
0 1 2 3 4

Health	2
Fire	1
Reactivity	0

HMIS *
3 4

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
1,1,2-Trichloro-1,2,2-Trifluoroethane	100%	See Section V.
WARNING! VOLATILE SOLVENT. KEEP CONTAINER TIGHTLY		
CLOSED AND STORE IN A COOL PLACE. VAPOR MAY BE HARMFUL.		
AVOID PROLONGED OR REPEATED CONTACT WITH SKIN.		

SECTION III PHYSICAL DATA

Melting Point (°F)	-35 to -36°C (-32°F)	Specific Gravity (H ₂ O = 1)	1.57 at 20°/4°C
Boiling Point (°F)	47.6°C (117.6°F)	Percent Volatile by Volume (%)	Ca 100%
Vapor Pressure (mm Hg)	285 mm at 70°F	Evaporation Rate (Acetone = 1)	0.45
Vapor Density (Air=1)	Ca 6		
Solubility in Water	0.028 mL. per 100 mL. water at 70°F.		
Appearance & Odor	Clear, colorless liquid with a slight ethereal odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	None.	Flammable Limits in Air % by Volume	None	Lower	Upper
Extinguisher Media	Use any media suitable for extinguishing supporting fire.				

SPECIAL FIREFIGHTING PROCEDURES

This is a non-flammable material. In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Dangerous; when heated to decomposition it may emit highly toxic and corrosive fumes of fluorides and chlorides.

D.O.T. NON-REGULATED.

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20