



Alpha Chemika



ISO 9001 QUALITY SYSTEM CERTIFIED ORGANIZATION

MATERIAL SAFETY DATA SHEET

MSDS

Savgan Heights ; 102 ,B Wing ; R.T.O. Lane ,Andheri (West) Mumbai - 400053 , INDIA

Section 1 - Chemical Product and Company Identification

Product Name : 2,2,2-TRIFLUOROETHANOL

Synonyms: TFE; bbb-Trifluoroethyl alcohol; Trifluoroethanol

CAS No.: 75-89-8

Molecular Weight: 100.04

Chemical Formula: F₃CCH₂

Section 2 - Composition, Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
2,2,2-Trifluoroethanol	75-89-8	99 - 100%	Yes

Section 3 - Hazardous Identification

Emergency Overview

WARNING! FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.
SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate

Flammability Rating: 2 - Moderate

Reactivity Rating: 1 - Slight

Contact Rating: 3 - Severe

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES;
CLASS B EXTINGUISHER

Storage Color Code: Red (Flammable)

Potential Health Effects

Inhalation:

Harmful if inhaled. Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.

Ingestion:

Harmful if swallowed. Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.

Skin Contact:

Causes severe irritation. Symptoms include redness, itching and pain. May be absorbed through the skin with possible systemic effects.

Eye Contact:

May cause severe irritation and pain.

Chronic Exposure:

No information found.

Aggravation of Pre-existing Conditions:

No information found.

Section 4 - First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Section 5 - Fire Fighting Measures

Fire:

Flash point: 29C (84F) CC

Flammable liquid and vapor.

Fire or excessive heat may produce hazardous decomposition products. Contact with strong oxidizers may cause fire.

Explosion:

Sealed containers may rupture when heated. Above the flash point, explosive vapor-air mixtures may be formed. Vapors can flow along surfaces to distant ignition source and flash back.

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide. Water may be ineffective. Water spray may be used to keep fire exposed containers cool. Move exposed containers from fire area, if it can be done without risk.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Section 6 - Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures.

Section 7 - Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Do Not attempt to clean empty containers since residue is difficult to remove. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, sparks, flame, static electricity or other sources of ignition: they may explode and cause injury or death.

Section 8 - Exposure Controls, Personal Protection

Airborne Exposure Limits:

For 2,2,2-Trifluoroethanol:

- AIHA Workplace Environmental Exposure Level (WEEL) -
0.3 ppm (TWA)

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details. Use explosion-proof equipment.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to the substance is apparent and engineering controls are not feasible, consult an industrial hygienist. For emergencies, or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Section 9 - Physical and Chemical Properties

Appearance:

Colorless liquid.

Odor:

Ethanol-like.

Solubility:

Completely miscible with water.

Density:

1.393

pH:

No information found.

% Volatiles by volume @ 21C (70F):

100

Boiling Point:

78C (172F)

Melting Point:

-45C (-49F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

52 @ 20C (68F)

Evaporation Rate (BuAc=1):

No information found.

Section 10 - Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Carbon dioxide, carbon monoxide, hydrogen fluoride gas

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Oxidizing agents, strong bases, potassium, sodium.

Conditions to Avoid:

Heat, flame, ignition sources, moisture, and incompatibles

Section 11 - Toxicological Information

For 2,2,2-Trifluoroethanol:

Acute Toxicity: Inhalation, rat, LC50 dose 470 ppm/6H; Oral, rat, LD50 dose 240 mg/kg; Skin, rabbit, LD50 dose 390 uL/kg.

Irritation: Std Draize (skin, rabbit) dose 750 ug/24H, severe; Std Draize (eye, rabbit) dose 20 mg/24H, moderate; Rinsed Draize (eye, rabbit) dose 100 mg/20S, severe.

Investigated as: Mutagen and Reproductive Effector.

-----\Cancer Lists\-----

---NTP Carcinogen---

Ingredient	Known	Anticipated	IARC Category
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2,2,2-Trifluoroethanol (75-89-8)	No	No	None
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Section 12 - Ecological Information

Environmental Fate: No information found.

Environmental Toxicity: No information found.

Section 13 - Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14 - Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: FLAMMABLE LIQUID, TOXIC, N.O.S. (2,2,2-TRIFLUOROETHANOL)

Hazard Class: 3, 6.1

UN/NA: UN1992

Packing Group: III

Information reported for product/size: 250G

International (Water, I.M.O.)

Proper Shipping Name: FLAMMABLE LIQUID, TOXIC, N.O.S. (2,2,2-TRIFLUOROETHANOL)

Hazard Class: 3, 6.1

UN/NA: UN1992

Packing Group: III

Information reported for product/size: 250G

International (Air, I.C.A.O.)

Proper Shipping Name: FLAMMABLE LIQUID, TOXIC, N.O.S. (2,2,2-TRIFLUOROETHANOL)

Hazard Class: 3, 6.1

UN/NA: UN1992

Packing Group: III

Information reported for product/size: 250G

Section 15 - Regulatory Information

-----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
2,2,2-Trifluoroethanol (75-89-8)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient	--Canada--			
	Korea	DSL	NDSL	Phil.
2,2,2-Trifluoroethanol (75-89-8)	No	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----

Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
2,2,2-Trifluoroethanol (75-89-8)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----

Ingredient	-RCRA-		-TSCA-	
	CERCLA	261.33	8(d)	
2,2,2-Trifluoroethanol (75-89-8)	No	No	No	

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
 SARA 311/312: Acute: Yes Chronic: No Fire: Yes Pressure: No
 Reactivity: No (Pure / Liquid)

Section 16 - Additional Information

NFPA Ratings: Health: **2** Flammability: **3** Reactivity: **1**

Label Hazard Warning:

WARNING! FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

Label Precautions:

- Keep away from heat, sparks and flame.
- Keep container closed.
- Use only with adequate ventilation.
- Avoid contact with eyes, skin and clothing.
- Wash thoroughly after handling.
- Avoid breathing vapor or mist.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 14.