

SDS – SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier: TRIFLUOROACETIC ACID (76-05-1)

Synonyms: TFA

Chemical Formula: C₂HF₃O₂

Recommended Use of the Chemical: Pharmaceutical, agricultural applications

Manufacturer / Supplier: HALOCARBON PRODUCTS CORPORATION

Address: 1100 Dittman Court, North Augusta, SC United States

Website: www.halocarbon.com Email: SDS@halocarbon.com

Phone: (803)278-3504

Emergency CHEMTREC Phone: (800) 424-9300 United States / 001-703-527-3887 International and Maritime

Representative: REACH ChemAdvice GmbH

Address: Am Marktplatx 5, 65779 Kelkheim (Taunus) Germany

Phone: +49 (0) 6195 96 199 11

Fax: +49 (0) 6195 96 199 33

2. HAZARD(S) IDENTIFICATION

Classification of the Substance or Mixture:

Acute toxicity, Inhalation (Category 4)

Skin corrosion (Category 1A)

Serious eye damage (Category 1)

Acute aquatic toxicity (Category 3)

Risk Phrases:

R20: Harmful by inhalation.

R35: Causes severe burns.

R52: Harmful to aquatic organisms.

R53: May cause long-term adverse effects in the aquatic environment.

Label Elements:

Signal Word: Danger



Hazard Statements:

H314: Causes severe skin burns and eye damage.

H332: Harmful if inhaled.

H412: Harmful to aquatic life with long lasting effects.

Precautionary Statements:

P261: Avoid breathing vapors.

P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310: Immediately call a POISON CENTER or doctor/ physician.

3. COMPOSITION INFORMATION / INGREDIENTS

Ingredient	CAS Number	EC Number	Index Number	Percent
Trifluoroacetic Acid	76-05-1	200-929-3	607-091-00-1	100%

4. FIRST-AID MEASURES

Show this safety data sheet to the doctor in attendance. Get medical attention immediately.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give Oxygen. Do not use mouth-to-mouth method if victim inhaled the substance. Get medical attention immediately.

Ingestion: DO NOT INDUCE VOMITING! Give a cup of water or milk. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than the hips to help prevent aspiration. Get medical attention immediately.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Destroy or thoroughly clean clothing and shoes before reuse. Get medical attention immediately.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Remove contact lenses, if present and easy to do. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Fire: Not flammable.

Explosion: Not combustible.

Fire Extinguishing Media: Water, water fog, Foam, dry chemical powder, Carbon Dioxide.

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

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: 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.

Environmental Precautions and Methods and Materials for Containment and Cleaning Up: Contain and recover liquid when possible. Do not let product enter drains. 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 flush to sewer!

7. HANDLING AND STORAGE

Precautions for Safe Handling: Use only with adequate ventilation. Do not breathe mist or vapor. Do not get in eyes, on skin, on clothing. Do not taste or swallow. Wash thoroughly after handling.

Conditions for Safe Storage, Including Any Incompatibilities: Protect against physical damage. Keep container tightly closed and store in a cool, dry well-ventilated location. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid.) Keep out of reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Airborne Exposure Limits: No OSHA or ACGIH exposure limits have been established. This does not mean that this substance is not harmful. Safe work practices should always be followed.

Latvia-and Lithuania specific OELS (TWA): 2mg/m³

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.

Personal Respirators (NIOSH Approved): Respirator type: Wear a CEN approved respirator, with appropriate cartridge or canister, suitable for airborne concentration levels present.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Halocarbon prefers neoprene acid-resistant coat and pants.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid

Odor: Vinegar-like

Odor Threshold: Not determined

pH: 1 at 1 g/l at 20C (68F)

Melting Point: -15C (5F)

Boiling Point / Boiling Range: 72C (162F)

Flash Point: Not applicable

Evaporation Rate (BuAC=1): No data available

Flammability: Not flammable

Upper / Lower Flammability or Explosive Limits: Not applicable

Vapor Pressure (mm Hg): 107 mm Hg - 25 C (77F)

Vapor Density (Air=1): No data available

Relative Density: 1.48 g/cm³ at 20C (68F)

Solubility: Soluble

Partition Coefficient: n-octanol / water: No data available

Auto-ignition Temperature: Not applicable

Decomposition Temperature: No data available

Viscosity: No data available

10. STABILITY AND REACTIVITY

Reactivity and / or Chemical Stability: Stable under ordinary conditions of use and storage.

Possibility of Hazardous Reactions and Conditions to Avoid: See Incompatible Materials.

Incompatible Materials: Strong bases, metals, oxidizing agents, alcohols, epoxides, steel (all types and surface treatments), Aluminum. Exothermic in contact with water. Reacts violently with: Alkali metals.

Hazardous Decomposition Products: Thermal decomposition or combustion may liberate toxic gases or fumes, including Carbon oxides, Hydrogen Fluoride, Fluorophosgene.

11. TOXICOLOGICAL INFORMATION

Emergency Overview: Although the toxicity of Trifluoroacetic Acid is low, contact with the skin causes immediate burns. The acid diffuses into skin and destroys tissue as it penetrates. Acid fumes are also irritating. Wash any affected area for at least 15 minutes and treat as third degree burn even though appearance may not indicate severity of skin damage.

Potential Health Effects:

Inhalation: Corrosive. Inhalation produces damaging effects on the mucous membranes and upper respiratory tract.

Ingestion: Causes digestive tract burns.

Skin Contact: Causes severe skin burns.

Eye Contact: Causes serious eye damage.

Chronic Exposure: No data available.

Aggravation of Pre-existing Conditions: No data available.

Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System:) No data available.

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System:) No data available.

Germ Cell Mutagenicity: No data available.

Reproductive Toxicity: No data available.

Aspiration Hazard: No data available.

Numerical Measures of Toxicity: Cancer Lists: NTP Carcinogen

Ingredient	Known	Anticipated	IARC Category
Trifluoroacetic Acid (76-05-1)	No	No	None

Acute Toxicity:

Acute Inhalation LC50 Mouse: 13.5 mg/l; Acute Inhalation LC50 Rat: 10 mg/l

Acute Oral LD50 Rat: 200 mg/kg; Acute Other LD50 Mouse: 1200 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 55.00 mg/l - 24 h

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Results of PBT and vPvB assessment: No data available.

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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.

14. TRANSPORT INFORMATION

UN Number: UN2699

UN Proper Shipping Name: TRIFLUOROACETIC ACID

Packing Group: I

Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)

Transport Hazard Class(es): 8

Maritime Transport IMDG/GGVSea

Transport Hazard Class(es): 8

EMS-No: F-A, S-B

Marine Pollutant: No

Air Transport ICAO-TI and IATA-DGR

Transport Hazard Class(es): 8

Transport in Bulk (according to Annex II of MARPOL 73/78 and the IBC Code:) Not applicable

Special Precautions for User: No additional information

15. REGULATORY INFORMATION

Chemical Inventory Status – Part 1

Ingredient	TSCA	EC	Japan	Australia
Trifluoroacetic Acid (76-05-1)	Yes	Yes	Yes	Yes

Chemical Inventory Status – Part 2

Ingredient	Korea	Canada		Phil.
		DSL	NDSL	
Trifluoroacetic Acid (76-05-1)	Yes	Yes	No	Yes

Federal, State & International Regulations - Part 1

Ingredient	SARA 302		SARA 313	
	RQ	TPQ	List Chemical	Catg.
Trifluoroacetic Acid (76-05-1)	No	No	No	No

Federal, State & International Regulations - Part 2

Ingredient	RCRA		TSCA
	CERCLA	261.33	8(d)
Trifluoroacetic Acid (76-05-1)	No	No	No

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

Poison Schedule: None allocated

16. OTHER INFORMATION

Effective Date: April 2016- Changed address

02/10/14 – Standardized for GHS / REACH

Previous Revisions: 01/28/11 – First Issue

Disclaimer: Halocarbon believes the information given here to be correct. However, we cannot guarantee its accuracy or be responsible for loss or damage that result from the use of such information.