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**MATERIAL SAFETY DATA SHEET (MSDS)****TRIFLUOROACETIC ACID AR****1. Product Identification**

**Synonyms:** Perfluoroacetic acid; trifluoroethanoic acid  
**CAS No.:** 76-05-1

Product Code: SS0110400100

**Molecular Weight:** 114.03  
**Chemical Formula:** C<sub>2</sub>HF<sub>3</sub>O<sub>2</sub>

**2. Composition/Information on Ingredients**

Ingredient	CAS No	Percent	Hazardous
Trifluoroacetic Acid	76-05-1	100%	Yes

**3. Hazards Identification****Emergency Overview**

**DANGER! CORROSIVE. CAUSES BURNS. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MATERIAL IS EXTREMELY DESTRUCTIVE TO THE UPPER RESPIRATORY TRACT, EYES AND SKIN.**

Health Rating: 3 - Severe

Flammability Rating: 1 - Slight

Reactivity Rating: 1 - Slight

Contact Rating: 4 - Extreme (Corrosive)

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

Storage Color Code: White (Corrosive)

**Potential Health Effects**

Information on the human health effects from exposure to this substance is limited.

**Inhalation:** Corrosive. Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.

**Ingestion:** Swallowing can cause burns of the mouth, throat and stomach. Symptoms include sore throat, vomiting and diarrhea.

**Skin Contact:** Extremely destructive to skin. May be absorbed through skin.

**Eye Contact:** Extremely destructive to eyes.

**Chronic Exposure:** No information found.

**Aggravation of Pre-existing Conditions:** No information found.

**4. First Aid Measures**

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

**Ingestion:** DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician immediately.

**Skin Contact:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician, immediately. Wash clothing before reuse.

**Eye Contact:** Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.

**5. Fire Fighting Measures**

**Fire:** Not considered to be a fire hazard.

**Explosion:** Not considered to be an explosion hazard.

**Fire Extinguishing Media:** Water spray may be used to extinguish surrounding fire and cool exposed containers. Water spray will also reduce fume and irritant gases.

**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.

**6. Accidental Release Measures**

Ventilate area of leak or spill. 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. Neutralize with alkaline material (soda ash, lime), then 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!

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**7. Handling and Storage**

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Protect from physical damage. Keep out of direct sunlight and away from heat and incompatible materials. Do not wash out container and use it for other purposes. When diluting, always add the acid to water; never add water to the acid. 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.

**8. Exposure Controls/Personal Protection**

**Airborne Exposure Limits:** None established.

**Ventilation System:** A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. 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):** 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.

**9. Physical and Chemical Properties**

**Appearance:** Clear, colorless liquid.

**Odor:** Strong pungent odor.

**Solubility:** Miscible in water.

**Density:** 1.53 at 20C

**pH:** No information found.

**% Volatiles by volume @ 21C (70F):** No information found.

**Boiling Point:** 72C (162F)

**Melting Point:** -15C (5F)

**Vapor Density (Air=1):** No information found.

**Vapor Pressure (mm Hg):** No information found.

**Evaporation Rate (BuAc=1):** No information found.

**10. Stability and Reactivity**

**Stability:** Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:** Burning may produce carbon monoxide, carbon dioxide and other toxic materials including hydrogen fluoride.

**Hazardous Polymerization:** Will not occur.

**Incompatibilities:** Bases, oxidizers, reducing agents; protect from moisture.

**Conditions to Avoid:** Moisture and incompatibles.

**11. Toxicological Information**

Inhalation rat LC50: 10 gm/m3. Investigated as a mutagen, reproductive effector.

---NTP Carcinogen---

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

**12. Ecological Information**

**Environmental Fate:** No information found.

**Environmental Toxicity:** No information found.

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#### 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. 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

##### Domestic (Land, D.O.T.)

**Proper Shipping Name:** TRIFLUOROACETIC ACID

**Hazard Class:** 8

**UN/NA:** UN2699

**Packing Group:** I

**Information reported for product/size:** 1L

##### International (Water, I.M.O.)

**Proper Shipping Name:** TRIFLUOROACETIC ACID

**Hazard Class:** 8

**UN/NA:** UN2699

**Packing Group:** I

**Information reported for product/size:** 1L

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

**Proper Shipping Name:** TRIFLUOROACETIC ACID

**Hazard Class:** 8

**UN/NA:** UN2699

**Packing Group:** I

**Information reported for product/size:** 1L

#### 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\-----

--Canada--

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

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

-SARA 302- -----SARA 313-----

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

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

-RCRA- -TSCA-

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

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Chemical Weapons Convention: No TSCA 12(b): No CDTA: No

SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No

Reactivity: No (Pure / Liquid)

**Australian Hazchem Code:** 2X

**Poison Schedule:** None allocated.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**16. Other Information**

**NFPA Ratings:** Health: **3** Flammability: **0** Reactivity: **0**

**Label Hazard Warning:**

DANGER! CORROSIVE. CAUSES BURNS. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MATERIAL IS EXTREMELY DESTRUCTIVE TO THE UPPER RESPIRATORY TRACT, EYES AND SKIN.

**Label Precautions:**

Do not breathe vapor or mist.

Do not get in eyes, on skin, or on clothing.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

**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, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases call a physician immediately.

**Product Use:** Laboratory Reagent.

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

**DISCLAIMER:**

- **SUVCHEM** Products are to be used as Lab Chemicals for R&D only. Not for drug, medicinal, household or other uses.
- **SUVCHEM** shall not be responsible for any damage resulting from handling or from contact with the above product.
- **SUVCHEM** provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product.

**End of document**