

**Material Safety Data Sheet**

Version 3.2  
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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : **Trifluoroacetic acid**

Product Number : T0274  
Brand : Sigma-Aldrich

Company : Sigma-Aldrich Canada, Ltd  
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OAKVILLE ON L6H 6J8  
CANADA

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Formula : C<sub>2</sub>HF<sub>3</sub>O<sub>2</sub>  
Molecular Weight : 114.02 g/mol

CAS-No.	EC-No.	Index-No.	Concentration [%]
<b>Trifluoroacetic acid</b>			
76-05-1	200-929-3	607-091-00-1	-

**3. HAZARDS IDENTIFICATION****Emergency Overview****Target Organs**

Liver

**WHMIS Classification**

E Corrosive Material

Corrosive to skin  
Corrosive to eyes  
Corrosive by inhalation.

**HMIS Classification**

Health Hazard: 3

Chronic Health Hazard: \*

Flammability: 0

Physical hazards: 1

**Potential Health Effects****Inhalation**

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May cause respiratory tract irritation.

**Skin**

May be harmful if absorbed through skin. Causes skin burns.

**Eyes**

Causes eye burns. May cause eye irritation.

**Ingestion**

May be harmful if swallowed. Causes burns.

**4. FIRST AID MEASURES****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

**In case of skin contact**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**5. FIRE-FIGHTING MEASURES****Flammable properties**

Flash point not applicable

Ignition temperature no data available

**Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Special protective equipment for fire-fighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Further information**

The product itself does not burn.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental precautions**

Discharge into the environment must be avoided. Do not let product enter drains.

**Methods for cleaning up**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE****Handling**

Avoid inhalation of vapour or mist.

**Storage**

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves.

#### Eye protection

Safety glasses

#### Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	liquid
Colour	colourless
Odour	pungent

### Safety data

pH	1.0 at 1.00000 g/l at 20.0 °C (68.0 °F)
Melting point	-15.4 °C (4.3 °F)
Boiling point	72.0 °C (161.6 °F)
Flash point	not applicable
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	130.0 hPa (97.5 mmHg) at 20.0 °C (68.0 °F) 142.7 hPa (107.0 mmHg) at 25.0 °C (77.0 °F)
Density	1.48 g/cm <sup>3</sup>
Water solubility	soluble
Partition coefficient: n-octanol/water	log Pow: -2.10

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

### Materials to avoid

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

### Hazardous decomposition products formed under fire conditions.

Carbon oxides, Hydrogen fluoride

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

LC50 Inhalation - rat - 10,000 mg/m3

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Conjunctive irritation.

Behavioral:Somnolence (general depressed activity). Lungs, Thorax, or Respiration:Dyspnea.

### Irritation and corrosion

no data available

### Sensitisation

no data available

### Chronic exposure

no data available

### Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting

### Potential Health Effects

#### Inhalation

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May cause respiratory tract irritation.

#### Skin

May be harmful if absorbed through skin. Causes skin burns.

#### Eyes

Causes eye burns. May cause eye irritation.

#### Ingestion

May be harmful if swallowed. Causes burns.

#### Target Organs

Liver,

## 12. ECOLOGICAL INFORMATION

### Elimination information (persistence and degradability)

no data available

### Ecotoxicity effects

Toxicity to daphnia and other aquatic invertebrates.

EC50 - Daphnia magna (Water flea) - 55.00 mg/l - 24 h

### Further information on ecology

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

no data available

### 13. DISPOSAL CONSIDERATIONS

#### Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

#### Contaminated packaging

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

#### DOT (US)

UN-Number: 2699 Class: 8 Packing group: I  
Proper shipping name: Trifluoroacetic acid

#### IMDG

UN-Number: 2699 Class: 8 Packing group: I EMS-No: F-A, S-B  
Proper shipping name: TRIFLUOROACETIC ACID  
Marine pollutant: No

#### IATA

UN-Number: 2699 Class: 8 Packing group: I  
Proper shipping name: Trifluoroacetic acid

### 15. REGULATORY INFORMATION

#### TSCA Status

On TSCA Inventory

#### DSL Status

All components of this product are on the Canadian DSL list.

#### WHMIS Classification

E Corrosive Material Corrosive to skin  
Corrosive to eyes  
Corrosive by inhalation.

### 16. OTHER INFORMATION

#### Further information

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