

# Material Safety Data Sheet

## Trifluoroacetic acid, biochemical grade

ACC# 01659

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Trifluoroacetic acid, biochemical grade

**Catalog Numbers:** AC293810250

**Synonyms:** TFA

**Company Identification:**

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

**For information in North America, call:** 800-ACROS-01

**For emergencies in the US, call CHEMTREC:** 800-424-9300

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
76-05-1	Trifluoroacetic acid, biochemical grade		200-929-3

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

**Appearance:** APHA: 5 max clear liquid.

**Hygroscopic** (absorbs moisture from the air).

**Target Organs:** Liver, respiratory system, eyes, skin.

#### Potential Health Effects

**Eye:** Causes severe eye burns. May cause blindness. Causes redness and pain.

**Skin:** Causes skin burns. Causes redness and pain. Prolonged contact may lead to necrosis.

**Ingestion:** Harmful if swallowed. Causes gastrointestinal tract burns. May cause perforation of the digestive tract. Causes cough, sore throat, chest pain, and lightheadedness.

**Inhalation:** Harmful if inhaled. Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

**Chronic:** Repeated inhalation may cause chronic bronchitis.

### Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

**Extinguishing Media:** Use extinguishing media most appropriate for the surrounding fire.

**Flash Point:** Not available.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 3; Flammability: 0; Instability: 0

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

### Section 7 - Handling and Storage

**Handling:** Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Use only in a chemical fume hood.  
**Storage:** Store in a cool, dry place. Store in a tightly closed container. Corrosives area.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Trifluoroacetic acid, biochemical grade	none listed	none listed	none listed

**OSHA Vacated PELs:** Trifluoroacetic acid, biochemical grade: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Not available.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

## Section 9 - Physical and Chemical Properties

**Physical State:** Clear liquid

**Appearance:** APHA: 5 max

**Odor:** pungent odor

**pH:** ca.2(100g/l aq.sol.)

**Vapor Pressure:** 107 mbar @ 25 deg C

**Vapor Density:** 3.9

**Evaporation Rate:**Not available.

**Viscosity:** 0.813 cP @ 25 deg C

**Boiling Point:** 72 deg C @ 760 mmHg

**Freezing/Melting Point:**-15 deg C

**Decomposition Temperature:**Not available.

**Solubility:** Miscible.

**Specific Gravity/Density:**1.535g/cm<sup>3</sup>

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

**Molecular Weight:**114.02

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, light, exposure to moist air or water, heat.

**Incompatibilities with Other Materials:** Bases, oxidizing agents, reducing agents, metals, acids, caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide), alkalis.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, hydrogen fluoride gas.

**Hazardous Polymerization:** Has not been reported

## Section 11 - Toxicological Information

### RTECS#:

CAS# 76-05-1: AJ9625000

### LD50/LC50:

CAS# 76-05-1:

Inhalation, mouse: LC50 = 13500 mg/m<sup>3</sup>;

Inhalation, rat: LC50 = 10 gm/m<sup>3</sup>;

### Carcinogenicity:

CAS# 76-05-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No data available.

**Teratogenicity:** No data available.

**Reproductive Effects:** No data available.

**Mutagenicity:** No data available.

**Neurotoxicity:** No data available.

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** No data available. log POW = -4.1

**Environmental:** No information available.

**Physical:** No information available.

**Other:** Not readily biodegradable.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	DOT regulated - small quantity provisions apply (see 49CFR173.4)	TRIFLUOROACETIC ACID
<b>Hazard Class:</b>		8
<b>UN Number:</b>		UN2699
<b>Packing Group:</b>		I

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 76-05-1 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 76-05-1: acute.

#### Section 313

No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 76-05-1 can be found on the following state right to know lists: New Jersey.

#### California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

### European/International Regulations

#### European Labeling in Accordance with EC Directives

#### Hazard Symbols:

C

#### Risk Phrases:

R 35 Causes severe burns.

R 20 Harmful by inhalation.

R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 27 Take off immediately all contaminated clothing.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 9 Keep container in a well-ventilated place.

S 28A After contact with skin, wash immediately with plenty of water.

S 61 Avoid release to the environment. Refer to special

instructions/safety data sheets.

**WGK (Water Danger/Protection)**

CAS# 76-05-1: 2

**Canada - DSL/NDSL**

CAS# 76-05-1 is listed on Canada's DSL List.

**Canada - WHMIS**

This product does not have a WHMIS classification.

**Canadian Ingredient Disclosure List**

CAS# 76-05-1 is listed on the Canadian Ingredient Disclosure List.

**Section 16 - Additional Information**

**MSDS Creation Date:** 12/18/1998

**Revision #2 Date:** 3/20/2003

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