

**Safety data sheet**  
according to Regulation (EC) No 1907/2006, Article 31

Printing date 26.07.2024

Version number 2

Revision: 26.07.2024

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**1.1 Product identifier**

· **Trade name:** Trifluoroacetic acid for LC-MS



· **Article number:** 45641

· **CAS Number:**

76-05-1

· **EC number:**

200-929-3

· **Index number:**

607-091-00-1

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

· **Application of the substance / the mixture:** Laboratory chemicals

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

SERVA Electrophoresis GmbH

Carl-Benz-Str. 7

D-69115 Heidelberg

Tel.: +49 6221 13840-0

FAX: +49 6221 13840-10

msds.info@serva.de

· **Information department:** Product Safety Department Tel.: +49 6221 13840-35

· **1.4 Emergency telephone number:**

Emergency medical information in case of poisoning

Poison Information Centre Mainz-Tel: +49 (0) 6131 19240

(Counselling in German and English)

**SECTION 2: Hazards identification**

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008:**



GHS05

Skin Corr. 1A

H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4

H332 Harmful if inhaled.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008:**

The substance is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms:** GHS05, GHS07

· **Signal word:** Danger

· **Hazard statements:**

H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

P260

Avoid breathing mist/vapours/spray.

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- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P303+P361+P353 **IF ON SKIN (or hair):** Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P304+P340 **IF INHALED:** Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- **Labelling of packages where the contents do not exceed 125 ml**
  - **Hazard pictograms** GHS05, GHS07
  - **Signal word** Danger
  - **Hazard statements**  
H314 Causes severe skin burns and eye damage.
  - **Precautionary statements**  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P303+P361+P353 **IF ON SKIN (or hair):** Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
P305+P351+P338 **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - **2.3 Other hazards**
  - **Results of PBT and vPvB assessment:**
  - **PBT:** PBT - Assessment not available.
  - **vPvB:** vPvB - Assessment not available.
  - **Determination of endocrine-disrupting properties** No further relevant information available.

**SECTION 3: Composition/information on ingredients**

- **3.1 Substances**
- **CAS No. Description:**  
76-05-1 trifluoroacetic acid
- **Identification number(s):**
- **EC number:** 200-929-3
- **Index number:** 607-091-00-1
- **Description:**
- **Empirical formula:** C<sub>2</sub>HF<sub>3</sub>O<sub>2</sub>
- **MW:** 114.02 g/mol

**SECTION 4: First aid measures**

- **4.1 Description of first aid measures**
- **General information:**  
Remove contaminated clothing.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Wash off immediately with plenty of soap and water; rinse thoroughly; seek medical attention.  
Remove contaminated clothing immediately.
- **After eye contact:**  
Rinse opened eye for several minutes with running water. Remove contact lenses if possible and continue rinsing. Consult an ophthalmologist immediately.
- **After swallowing:**  
Rinse out mouth immediately. Drink plenty of water and provide fresh air. Call a doctor immediately.  
Do not induce vomiting - risk of chemical burns!

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- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture:**  
In case of fire, the following can be formed, but not limited to:  
Hydrogen fluoride (HF)  
Carbon monoxide and carbon dioxide
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.
- **Additional information**  
Collect contaminated fire fighting water separately. It must not enter the sewage system.  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.  
Ensure adequate ventilation  
Do not inhale vapours.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up**  
Dispose contaminated material as waste according to section 13.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling:**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Store containers tightly closed and dry.
- **7.3 Specific end use(s):** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.

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- **8.2 Exposure controls**
- **Appropriate engineering controls:** No further data; see section 7.
- **Individual protection measures, such as personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Store protective clothing separately.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
Short term filter device:  
Filter ABEK-P2
- **Hand protection:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves:**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material:**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**  
Butyl rubber, BR  
Fluorocarbon rubber (Viton)  
Nitrile rubber, NBR
- **Eye/face protection:** Tightly sealed goggles.
- **Body protection:** Protective work clothing.

## SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information:**
- **Physical state:** Fluid
- **Colour:** Colourless
- **Odour:** Pungent
- **Odour threshold:** Not determined.
- **Melting point/freezing point:** -15 °C
- **Boiling point or initial boiling point and boiling range:** 73 °C
- **Flammability:** Based on available data, the classification criteria for flammable liquids are not met.
- **Lower and upper explosion limit:**
- **Lower:** No information available
- **Upper:** No information available
- **Flash point:** >100 °C
- **Decomposition temperature:** No information available
- **pH:** 0.4
- **Viscosity:**
- **Kinematic viscosity:** No information available
- **Dynamic viscosity at 20 °C:** 1.8 mPas

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- **Solubility:**
- **Water:** Fully miscible
- **Partition coefficient n-octanol/water (log value):** No information available
- **Vapour pressure at 20 °C:** 142 hPa
- **Density and/or relative density:**
- **Density at 20 °C:** 1.535 g/cm<sup>3</sup>
- **Relative density:** No information available

- **9.2 Other information**
- **Appearance:**
- **Form:** Liquid
- **Important information on protection of health and environment, and on safety:**
- **Explosive properties:** Product does not present an explosion hazard.
- **Molecular weight** 114.02 g/mol

### SECTION 10: Stability and reactivity

- **10.1 Reactivity:** No further relevant information available.
- **10.2 Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions:**  
Can react violently with oxygen rich (oxidising) material. Danger of Explosion.
- **10.4 Conditions to avoid:** No further relevant information available.
- **10.5 Incompatible materials:**  
Avoid contact with:  
strong bases  
Metals
- **10.6 Hazardous decomposition products:** In case of fire: see section 5

### SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:**
- **Acute toxicity:** Harmful if inhaled.
- **Skin corrosion/irritation:** Causes severe skin burns and eye damage.
- **Serious eye damage/irritation:** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards:**
- **Endocrine disrupting properties:** No relevant information available

### SECTION 12: Ecological information

- **12.1 Toxicity:**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability:** No further relevant information available.
- **12.3 Bioaccumulative potential:** No further relevant information available.
- **12.4 Mobility in soil:** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment:**
- **PBT:** PBT - assessment not available.

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- **vPvB:** vPvB - assessment not available.
- **12.6 Endocrine disrupting properties:** For information on endocrine disrupting properties see section 11.
- **12.7 Other adverse effects:**
- **Additional ecological information:**
- **General notes:**  
Do not allow product to reach ground water, water course or sewage system.  
Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Dispose of in accordance with official regulations.  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:**  
Uncleaned packaging must be disposed of in the same way as the product in accordance with official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### SECTION 14: Transport information

- **14.1 UN number or ID number**  
· **ADR, IMDG, IATA** UN2699
- **14.2 UN proper shipping name**  
· **ADR** 2699 TRIFLUOROACETIC ACID  
· **IMDG, IATA** TRIFLUOROACETIC ACID
- **14.3 Transport hazard class(es)**  
· **ADR, IMDG, IATA**  
  
· **Class:** 8 Corrosive substances.  
· **Label:** 8
- **14.4 Packing group**  
· **ADR, IMDG, IATA** I
- **14.5 Environmental hazards** Not applicable.
- **14.6 Special precautions for user** Warning: Corrosive substances.  
· **Hazard identification number (Kemler code):** 88  
· **EMS Number:** F-A,S-B  
· **Segregation groups** (SGG1) Acids  
· **Stowage Category** B  
· **Stowage Code** SW1 Protected from sources of heat.  
SW2 Clear of living quarters.  
· **Handling Code** H2 Keep as cool as reasonably practicable  
· **Segregation Code** SG36 Stow "separated from" SGG18-alkalis.  
SG49 Stow "separated from" SGG6-cyanides
- **14.7 Maritime transport in bulk according to IMO instruments** Not applicable.

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· **Transport/Additional information:**

· **ADR**

- **Limited quantities (LQ)** 0
- **Excepted quantities (EQ)** Code: E0  
Not permitted as Excepted Quantity
- **Transport category** 1
- **Tunnel restriction code** E
- **Item:**

· **IMDG**

- **Limited quantities (LQ)** 0
- **Excepted quantities (EQ)** Code: E0  
Not permitted as Excepted Quantity

· **UN "Model Regulation":** UN 2699 TRIFLUOROACETIC ACID, 8, I

**SECTION 15: Regulatory information**

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Poisons Act**
- **Regulated explosives precursors** Substance is not listed.
- **Regulated poisons** Substance is not listed.
- **Reportable explosives precursors** Substance is not listed.
- **Reportable poisons** Substance is not listed.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 75
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**  
Substance is not listed.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**  
Substance is not listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
- **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**  
Substance is not listed.
- **National regulations:**
- **Water hazard class:** Water hazard class 2 (Assessment by list): hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

- **Department issuing SDS:** Product Safety Department
- **Contact:** +49 6221 13840-35
- **Date of previous version:** 12.10.2017
- **Abbreviations and acronyms:**  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organisation

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*ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)**PBT: persistent, bioaccumulative, toxic substance (UK REACH)**vPvB: very persistent, very bioaccumulative substance (UK REACH)**UK REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals**GB CLP: Regulation on classification, labelling and packaging of substances and mixtures**bw: body weight**ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Acute Tox. 4: Acute toxicity – Category 4**Skin Corr. 1A: Skin corrosion/irritation – Category 1A**Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3*

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