

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/26/2024

Reviewed on 07/26/2024

1 Identification

- **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
- **Application of the substance / the mixture:** Laboratory chemicals
- **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
- **Emergency telephone number:**
Emergency medical information in case of poisoning
Poison Information Center Mainz-Tel: +49 (0) 6131 19240
(Advice in German and English)



2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05

Skin Corrosion 1A

H314 Causes severe skin burns and eye damage.



GHS07

Acute Toxicity - Inhalation 4 H332 Harmful if inhaled.

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:** GHS05, GHS07

- **Signal word:** Danger

- **Hazard statements:**

Harmful if inhaled.

Causes severe skin burns and eye damage.

- **Precautionary statements**

Do not breathe mist/vapours/spray.

Avoid release to the environment.

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

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 3
Fire = 1
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 3
Fire = 1
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment:**
- **PBT:** PBT - Assessment not available.
- **vPvB:** vPvB - Assessment not available.

3 Composition/information on ingredients

- **Chemical characterization: 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:** $C_2HF_3O_2$
- **MW:** 114.02 g/mol

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
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 existing contact lenses, if possible, and continue rinsing. Consult an ophthalmologist immediately.
- **After swallowing:**
Rinse mouth immediately. Drink plenty of water and fresh air. Call a doctor immediately.
Do not induce vomiting - risk of chemical burns!
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
 CO_2 extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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- **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Hydrogen fluoride (HF)
Carbon monoxide and carbon dioxide
- **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.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation
Do not inhale vapors.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **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).
- **Protective Action Criteria for Chemicals**
- **PAC-1:** 0.13 ppm
- **PAC-2:** 73 mg/m³
- **PAC-3:** 440 mg/m³
- **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.

7 Handling and storage

- **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.
- **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 container tightly closed and dry.
- **Specific end use(s):** No further relevant information available.

8 Exposure controls/personal protection

- **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.
- **Exposure controls**
- **Additional information about design of technical systems:** No further data; see section 7.
- **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.

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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

- **Protection of hands:**

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 protection:** Tightly sealed goggles

- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information:**

- **Color:**

Colorless

- **Odor:**

Pungent

- **Odor threshold:**

Not determined.

- **Melting point/Melting range:**

-15 °C (5 °F)

- **Boiling point/Boiling range:**

73 °C (163.4 °F)

- **Flammability (solid, gaseous):**

Based on available data, the classification criteria for flammable liquids are not met.

- **Explosion limits:**

- **Lower:**

No information available

- **Upper:**

No information available

- **Flash point:**

>100 °C (>212 °F)

- **Decomposition temperature:**

No information available

- **pH-value:**

0.4

- **Viscosity:**

- **Kinematic viscosity:**

No information available

- **Dynamic viscosity at 20 °C (68 °F):**

1.8 mPas

- **Solubility in / Miscibility with:**

- **Water:**

Fully miscible.

- **Partition coefficient (n-octanol/water):**

No information available

- **Vapor pressure at 20 °C (68 °F):**

142 hPa (106.5 mm Hg)

- **Vapor pressure:**

- **Density at 20 °C (68 °F):**

1.535 g/cm³ (12.80958 lbs/gal)

- **Relative density:**

No information available

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

10 Stability and reactivity

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

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Harmful if inhaled.
- **on the skin:** Causes severe skin burns and eye damage.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12 Ecological information

- **Toxicity:**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **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 (Assessment by list): hazardous for water

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13 Disposal considerations

- **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.

14 Transport information

- | | |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| · UN-Number | UN2699 |
| · DOT, ADR, IMDG, IATA | |
| · UN proper shipping name | Trifluoroacetic acid |
| · DOT | 2699 TRIFLUOROACETIC ACID |
| · ADR | TRIFLUOROACETIC ACID |
| · IMDG, IATA | |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · ADR, IMDG, IATA | |
|  | |
| · Class: | 8 Corrosive substances |
| · Label: | 8 |
| · Packing group | I |
| · DOT, ADR, IMDG, IATA | |
| · Environmental hazards | Not applicable. |
| · 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 |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |

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· **Transport/Additional information:**

· **ADR**

· **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· **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

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further relevant information available.

· **Section 355 (extremely hazardous substances):** Substance is not listed.

· **Section 313 (Specific toxic chemical listings):** Substance is not listed.

· **TSCA (Toxic Substances Control Act):** ACTIVE

· **Hazardous Air Pollutants** Substance is not listed.

· **Proposition 65** Substance is not listed.

· **Chemicals known to cause cancer:** Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.

· **Chemicals known to cause developmental toxicity:** Substance is not listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)** Substance is not listed.

· **TLV (Threshold Limit Value)** Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.

· **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms** GHS05, GHS07

· **Signal word** Danger

· **Hazard statements**

Harmful if inhaled.

Causes severe skin burns and eye damage.

· **Precautionary statements**

Do not breathe mist/vapours/spray.

Avoid release to the environment.

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

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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 preparation / last revision** 07/26/2024 / -

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· 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

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

PBT: persistent, bioaccumulative, toxic substance (REACH)

vPvB: very persistent, very bioaccumulative substance (REACH)

REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

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

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Toxicity - Inhalation 4: Acute toxicity – Category 4

Skin Corrosion 1A: Skin corrosion/irritation – Category 1A