

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Trifluoromethanesulfonic acid

Revision Date: 9/23/2022

Date Issued: 5/26/2025

Version: 2

### 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

Product name	Trifluoromethanesulfonic acid
Product code	KI-0008
CAS	1493-13-6
EC-Number	216-087-5
REACH No.	A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses Laboratory chemicals, Manufacture of substances

#### 1.3 Details of the supplier of the safety data sheet

Supplier	IoLiTec Ionic Liquids Technologies GmbH Im Zukunftspark 9 D – 74076 Heilbronn Germany
Telephone	+49 (0)7131-89839-0
Fax	+49 (0)7131-89839-109
Email	msds@iolitec.de

#### 1.4 Emergency telephone number

Emergency telephone +49 (0)151-41255671



ROCO

Distributor

1816 Parkway View Drive,  
Pittsburgh, PA 15205  
✉ Info@roco.global  
724-315-9170  
www.roco.global

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Trifluoromethanesulfonic acid

Revision Date: 9/23/2022

Date Issued: 5/26/2025

Version: 2

## 2 HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Metal Corrosion (Category 1)

Acute Toxicity, Oral (Category 4)

Skin Corrosion (Category 1B)

Eye Damage (Category 1)

Specific target organ toxicity – Single exposure (Cat. 3)

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)



Pictogram

#### Signal word

Danger

#### H-phrases

H290

May be corrosive to metals.

H302

Harmful if swallowed.

H314

Causes severe skin burns and serious eye damage.

H335

May cause respiratory irritation.

#### P-phrases

P234

Keep only in original container.

P260

Do not breathe fume / gas / mist / vapours / spray.

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Trifluoromethanesulfonic acid

Revision Date: 9/23/2022

Date Issued: 5/26/2025

Version: 2

---

P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331 + P310	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P406	Store in a corrosion resistant container with a resistant inner liner.

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Trifluoromethanesulfonic acid

Revision Date: 9/23/2022

Date Issued: 5/26/2025

Version: 2

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### *Ecological information:*

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### *Toxicological information:*

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 3 COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Trifluoromethanesulfonic acid

**CAS:** 1493-13-6

**EC-Number:** 216-087-5

#### Ingredient name

#### Contents

#### Classification

Trifluoromethanesulfonic acid

>98%

Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1,  
STOT SE 3

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Trifluoromethanesulfonic acid

Revision Date: 9/23/2022

Date Issued: 5/26/2025

Version: 2

### 4 FIRST AID MEASURES

#### 4.1 Description of first aid measures

##### General

Take off immediately all contaminated clothing and wash it before reuse.

Contaminated work clothing should not be allowed out of the workplace. Immediately call a POISON CENTER or doctor/physician.

##### Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory problems, provide artificial respiration/oxygen.

##### Ingestion

Rinse mouth. Do NOT induce vomiting. Get medical attention immediately.

##### Skin

Remove/Take off immediately all contaminated clothing. Rinse skin immediately with soap and water. Get medical attention.

##### Eyes

Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Trifluoromethanesulfonic acid

Revision Date: 9/23/2022

Date Issued: 5/26/2025

Version: 2

## 5 FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Use: Carbon dioxides (CO<sub>2</sub>). Dry chemicals, sand, dolomite etc.

Do not use: Water.

### 5.2. Special hazards arising from the substance or mixture

May react violently with water under formation of substantial heat. Fire causes formation of toxic gases.

### 5.3. Advice for firefighters

Wear self-contained breathing apparatus as combustion may produce hazardous fumes.

## 6 ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective clothing and avoid inhalation of vapor, skin or eye contact.

### 6.2 Environmental precautions

Avoid washing into water courses. Avoid contaminating public drains or water supply.

### 6.3 Methods and materials for containment and cleaning up

Avoid contact with skin or inhalation of spillage, dust or vapor. Collect and reclaim or dispose in sealed containers in license waste. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate.

### 6.4 Reference to other sections

For disposal see section 13.

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Trifluoromethanesulfonic acid

Revision Date: 9/23/2022

Date Issued: 5/26/2025

Version: 2

## 7 HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Keep away from heat, sparks and open flame. Do not use in confined spaces without adequate ventilation and/or respirator. Avoid contact with water.

### 7.2 Conditions for safe storage, including any incompatibilities

Store at moderate temperatures in dry, well-ventilated area. Chemical storage. Keep container tightly closed. Store in a corrosion resistant container with a resistant inner liner. Store locked up.

Storage class (TRGS 510): 6.1D

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

### 8.1 Control parameters

Ingredients with workplace control parameters

### 8.2 Exposure controls

#### Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Trifluoromethanesulfonic acid

Revision Date: 9/23/2022

Date Issued: 5/26/2025

Version: 2

### Body Protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator.

For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance	liquid
b) Color	Colorless to brownish.
c) Odor/taste	No characteristic odor.
d) Melting point/freezing point	-40 °C
e) Initial boiling point	162 °C
f) Flammability	no data available
g) Upper/lower explosive limits	no data available
h) Flash point	no data available
i) Autoignition temperature	no data available
j) Decomposition temperature	no data available
k) pH	no data available
l) Viscosity, kinematic	no data available
m) Water solubility	soluble, may react violently
n) Partition coefficient	no data available
o) Vapor pressure	10 hPa (55 °C)
p) Density	1.71 g/cm <sup>3</sup>
q) Relative vapor density	no data available

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Trifluoromethanesulfonic acid

Revision Date: 9/23/2022

Date Issued: 5/26/2025

Version: 2

- r) Particle characteristics not relevant
- s) Explosive properties not relevant
- t) Oxidizing properties not relevant

### 9.2 Other safety information

No data available

## 10 STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

May react violently with water, alcohols and bases under formation of substantial heat.

### 10.4 Conditions to avoid

Exposure to moisture.

### 10.5 Incompatible materials

Water, alcohols, bases

### 10.6 Hazardous decomposition products

Decomposition may lead to formation of toxic gases: Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), sulfurous oxides (SO<sub>x</sub>), hydrogen fluoride (HF).

## 11 TOXICOLOGICAL INFORMATION

### 11.1 Information on hazard classes

#### Acute toxicity

Acute toxicity, Oral (Cat. 4)

Acute toxicity, Dermal – no data available

Acute toxicity, Inhalation – no data available

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Trifluoromethanesulfonic acid

Revision Date: 9/23/2022

Date Issued: 5/26/2025

Version: 2

---

### **Skin corrosion/irritation**

Skin corrosion (Cat. 1B)

### **Serious eye damage/eye irritation**

Eye damage (Cat. 1)

### **Respiratory or skin sensitization**

Respiratory sensitization – no data available

Skin sensitization – not classified

### **Germ cell mutagenicity**

Not classified

### **Carcinogenicity**

No data available

### **Reproductive toxicity**

No data available

### **Specific target organ toxicity - single exposure**

Specific target organ toxicity – single exposure (Cat. 3)

Respiratory irritation

### **Specific target organ toxicity - repeated exposure**

Not classified

### **Aspiration hazard**

No data available

### **Potential health effects**

**Inhalation** May cause respiratory irritation.

**Ingestion** Harmful if swallowed.

**Skin** Causes severe skin burns.

**Eyes** Causes serious eye damage.

### **Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### **11.2 Information on other hazards**

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Trifluoromethanesulfonic acid

Revision Date: 9/23/2022

Date Issued: 5/26/2025

Version: 2

### Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU)2018/605 at levels of 0.1% or higher.

### Additional Information

No additional information available.

## 12 ECOLOGICAL INFORMATION

### 12.1 Toxicity

Not classified.

### 12.2 Persistence and degradability

No data available.

### 12.3 Bioaccumulative potential

No data available.

### 12.4 Mobility in soil

No data available.

### 12.5 Results of PBT and vPvB assessment

No data available

### 12.6 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU)2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

No data available

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Trifluoromethanesulfonic acid

Revision Date: 9/23/2022

Date Issued: 5/26/2025

Version: 2

## 13 DISPOSAL CONSIDERATIONS

## 13.1 Waste treatment methods

Contact specialist disposal companies. Dispose of in accordance with Local Authority requirements. Recover and reclaim or recycle, if practical. [Do not dispose in communal waste water.](#)

## 14 TRANSPORT INFORMATION

## 14.1 UN number

UN3265

## 14.2 UN proper shipping name

CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Trifluoromethanesulfonic acid)

### 14.3 Transport hazard class(es)

## 14.4 Packaging group

ADR/RID: II IMDG: II IATA: II

## 14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

## 14.6 Special precautions for user

No data available

## 15 REGULATORY INFORMATION

## 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Trifluoromethanesulfonic acid**

Revision Date: 9/23/2022

Date Issued: 5/26/2025

Version: 2

## 15.2 Chemical safety assessment

no data available

## Country specific information

**Germany**

WGK: 3 (Self-Classification)

## 16 OTHER INFORMATION

### DISCLAIMER

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPOSED TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. IOLITEC SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. THIS INFORMATION RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR ANY PROCESS. IT IS THE USERE'S RESPONISIBILTY TO SATISFY HIMSELF AS TO THE SUITABILITY OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE.

IN NO WAY SHALL IOLITEC BE LIABLE FOR ANY CLAIMS, LOSSES OR DAMAGES OF ANY THIRD PARTY OR FOR THE LOST PROFITS OR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES, HOWSOEVER ARISING, EVEN IF THE COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.