

# SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Version no. : 2.1  
Prepared on : 12.08.2025  
Revised on : 11.02.2026

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

### 1.1 Product identifiers

**Product name** Trifluoroacetic acid  
**Product Number** PSR36288 / PSR36667  
**Brand** PureSynth research chemicals  
**CAS No.** 76-05-1

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

**Identified uses** : Solvent for LCMS, Eluent Additive for LCMS

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

**Company** PureSynth Research Chemicals GmbH.  
64683 Einhausen Marie-Curie-StraBe. 3, Germany

### 1.4 Emergency telephone number

**Worldwide Helpline No.:** 1800-8908-260

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Acute toxicity, (Category 4) H332: Harmful if inhaled.  
Skin corrosion, (Sub-category 1A) H314: Causes severe skin burns and eye damage.  
Serious eye damage, (Category 1) H318: Causes serious eye damage  
Long-term (chronic) aquatic hazard, (Category 3) H412: Harmful to aquatic life with long lasting effects.

### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008

**Pictogram**



**Signal word** Danger

**Hazard statement(s)**

H314 Causes severe skin burns and eye damage.  
H332 Harmful if inhaled.  
H412 Harmful to aquatic life with long lasting effects.

**Precautionary statement(s)**

P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.

P261	Avoid breathing mist or vapors.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

2.3 **Other hazards:** This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher

### SECTION 3: Composition / information on ingredients

#### 3.1 Substances

Common names & Synonyms	Mol. formula	CAS number
TFA	C <sub>2</sub> HF <sub>3</sub> O <sub>2</sub>	76-05-1
Component	Classification	Concentration
trifluoroacetic acid	Acute Tox. 4; Skin Corr. 1A; Eye Dam. 1; Aquatic Chronic 3; H332, H314, H318, H412	<= 100 %

### SECTION 4: First aid measures

#### Description of first aid measures

<b>General advice</b>	First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.
<b>If inhaled</b>	After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.
<b>In case of skin contact</b>	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.
<b>In case of eye contact</b>	After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
<b>If swallowed</b>	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician. Do not attempt to neutralise.
<b>Most important symptoms and effects, both acute and delayed</b>	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
<b>Indication of any immediate medical attention and special treatment needed</b>	No data available

### SECTION 5: Fire fighting measures

<b>Extinguishing media</b>	Water Foam Carbon dioxide (CO <sub>2</sub> ) Dry powder
<b>Unsuitable extinguishing media</b>	For this substance/mixture no limitations of extinguishing agents are given.
<b>Special hazards arising from the substance or mixture</b>	Carbon oxides

	Hydrogen fluoride
	Combustible.
	Development of hazardous combustion gases or vapours possible in the event of fire.
<b>Advice for fire-fighters</b>	Stay in danger area only with self-contained breathing apparatus.
	Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
	Suppress (knock down) gases/vapors/mists with a water spray jet.
<b>Further information</b>	Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6: Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
<b>Environmental precautions</b>	Do not let product enter drains.
<b>Methods and materials for containment and cleaning up</b>	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.
<b>Reference to other sections</b>	For disposal see section 13.

## SECTION 7: Handling and storage

<b>Precautions for safe handling</b>	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.
<b>Conditions for safe storage, including any incompatibilities</b>	Tightly closed. hygroscopic Store under inert gas. Storage class (TRGS 510): 8B - Non-combustible corrosive hazardous materials
<b>Specific end use(s)</b>	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls / Personal protection

<b>Control parameters</b>	Ingredients with workplace control parameters
<b>Exposure controls</b>	Personal protective equipment
<b>Appropriate engineering controls</b>	
<b>Personal protective equipment:</b>	
<b>Eye / face protection</b>	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggle
<b>Skin protection</b>	This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from

those stated in EN 16523-1 please contact the supplier of CE-approved gloves

<b>Body Protection</b>	Acid-resistant protective clothing
<b>Respiratory protection</b>	Recommended Filter type: Filter B-(P2)
<b>Control of environmental exposure</b>	Do not let product enter drains. Risk of explosion.

## SECTION 9: Physical and chemical properties

<b>Appearance</b>	Form: liquid
	Colour: colorless
<b>Odour</b>	pungent
<b>pH - Value</b>	1 at 10 g/l
<b>Density</b>	1.489 g/cm <sup>3</sup> at 20 °C
<b>Boiling Point</b>	72,4 °C
<b>Melting Point</b>	-15.4 °C
<b>Solubility in water</b>	10.000 g/l - US-EPA- soluble
<b>Flash point</b>	No data available
<b>Vapour pressure</b>	158 hPa at 25 °C
<b>Auto-ignition temperature</b>	No data available
<b>Vapour density</b>	No data available
<b>Flammability (solid, gas)</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Partition coefficient: n- octanol / water</b>	log Pow: -2.10 - Bioaccumulation is not expected.
<b>Viscosity</b>	Viscosity, dynamic: 1.8 mPa.s at 20 °C - 1141.6 mPa.s at 40 °C
<b>Explosive properties</b>	No data available
<b>Upper / lower flammability or explosive limits</b>	No data available
<b>Oxidizing properties</b>	none

**Other safety information:** Surface tension 72.5 mN/m at 1g/l at 20 °C

## SECTION 10: Stability and reactivity

<b>Reactivity</b>	No data available
<b>Chemical stability</b>	The product is chemically stable under standard ambient conditions (room temperature) . Risk of explosion with: lithium aluminium hydride hydrides
<b>Possibility of hazardous reactions</b>	Exothermic reaction with: alkalines Ammonia Generates dangerous gases or fumes in contact with: acids
<b>Condition to avoid</b>	no information available
<b>Incompatible materials</b>	rubber, Metals
<b>Hazardous decomposition products</b>	In the event of fire: see section 5

## SECTION 11: Toxicological information

<b>Acute toxicity</b>	Symptoms: Nausea, Vomiting, strong pain (risk of perforation!), If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. LC50 Inhalation - Rat - 4 h - 10,01 mg/l - vapor Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:., damage of respiratory tract, Inhalation may lead to the formation of oedemas in the respiratory tract. Acute toxicity estimate Inhalation - 10,01 mg/l - vapor
<b>Skin corrosion/irritation</b>	Skin - Rabbit Result: Causes severe burns. Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Remarks: Necrosis Causes poorly healing wounds.
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage
<b>Respiratory or skin sensitization</b>	Maximization Test - Guinea pig Result: negative Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative Test Type: In vitro mammalian cell gene mutation test
<b>Germ cell mutagenicity</b>	Test system: mouse lymphoma cells Metabolic activation: with and without metabolic activation Result: negative Test Type: Chromosome aberration test in vitro Test system: Human lymphocytes Metabolic activation: with and without metabolic activation
<b>Carcinogenicity</b>	No data available
<b>Reproductive toxicity</b>	No data available
<b>Specific target organ toxicity - single exposure</b>	No data available
<b>Specific target organ toxicity - repeated exposure</b>	No data available

**Aspiration hazard**

No data available

**Additional 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.

**SECTION 12: Ecological information**

**Toxicity**

Toxicity to fish

static test LC50 - Danio rerio (zebra fish) - > 999 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - > 999 mg/l - 48 h

Toxicity to algae

static test ErC50 - Pseudokirchneriella subcapitata - 237,07 mg/l - 72 h

Toxicity to bacteria

EC50 - activated sludge - > 832 mg/l - 3 h

Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)

semi-static test NOEC - Daphnia magna (Water flea) - > 25 mg/l - 21 d

**Persistence and degradability**

Biodegradability aerobic - Exposure time 127 d Result: 11 % - Not inherently biodegradable

**Biodegradability**

Readily biodegradable.

**Bio accumulative potential**

No bioaccumulation is to be expected (log Pow <= 4).

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

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

**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.

**Other adverse effects**

Harmful effect due to pH shift. Caustic even in diluted form. Hazard for drinking water supplies. Discharge into the environment must be avoided.

**SECTION 13: Disposal considerations**

**Waste treatment methods  
Products**

Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: Transport information**

	UN no.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
<b>ADR / RID</b>	2699	TRIFLUOROACETIC ACID	8	I	no
<b>IMDG</b>	2699	TRIFLUOROACETIC ACID	8	I	no
<b>IATA</b>	2699	Trifluoroacetic acid	8	I	no

## SECTION 15: Regulatory information

### **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.

### **Chemical safety assessment**

For this product a chemical safety assessment was not carried out.

## SECTION 16: Other information

The information in this SDS is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The user must be determined suitability of this information for his application.