

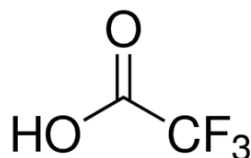
CAS-No.: 76-05-1 MSDS

## MATERIAL SAFETY DATA SHEET (MSDS)

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

#### 1.1. Product identifier

Product form : Substance  
:  
EC Index-No. : 607-091-00-1  
EC-No. : 200-929-3  
CAS-No. : 76-05-1  
Product code : 0349C  
Formula : C<sub>2</sub>HF<sub>3</sub>O<sub>2</sub>  
Chemical structure :



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

##### 1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial  
For professional use only

##### 1.2.2. Uses advised against

No additional information available

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

LOBA CHEMIE PVT.LTD.  
107 Wode House Road, Jehangir Villa, Colaba  
400005 Mumbai - INDIA  
T +91 22 6663 6663 - F +91 22 6663 6699  
[info@lobachemie.com](mailto:info@lobachemie.com) - [www.lobachemie.com](http://www.lobachemie.com)

#### 1.4. Emergency telephone number

Emergency number : + 91 22 6663 6663 (9:00am - 6:00 pm)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, H314  
Category 1A  
Acute toxicity (inhal.), H332  
Category 4  
Hazardous to the aquatic H412  
environment — Chronic  
Hazard, Category 3

# TRIFLUOROACETIC ACID For HPLC & UV Spectroscopy

## Safety Data Sheet

Full text of H statements : see section 16

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xn; R20

C; R35

R52/53

Full text of R-phrases: see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

GHS07

Signal word (CLP) :

Danger

Hazard statements (CLP) :

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

Precautionary statements (CLP) :

P273 - Avoid release to the environment.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 - Immediately call a doctor.

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name	Product identifier	%
TRIFLUOROACETIC ACID For HPLC & UV Spectroscopy	(CAS-No.) 76-05-1 (EC-No.) 200-929-3 (EC Index-No.) 607-091-00-1	100

Full text of R- and H-statements: see section 16

### 3.2. Mixtures

Not applicable

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### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
- First-aid measures after skin contact : Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

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

- Symptoms/effects : Causes severe skin burns and eye damage.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Water spray.
- Unsuitable extinguishing media : Do not use extinguishing media containing water.

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

No additional information available

#### 5.3. Advice for firefighters

- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Use personal protective equipment as required.

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Collect spillage.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Do not breathe vapours. Avoid contact with skin and eyes.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

- Storage conditions : Store in a well-ventilated place. Keep container tightly closed.

# TRIFLUOROACETIC ACID For HPLC & UV Spectroscopy

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### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Hand protection	: Protective gloves
Eye protection	: Chemical goggles or face shield
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: [In case of inadequate ventilation] wear respiratory protection.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Molecular mass	: 114.02 g/mol
Colour	: Clear Colorless.
Odour	: strong pungent odor.
Odour threshold	: No data available
pH	: 1
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -15.4 °C
Freezing point	: No data available
Boiling point	: 72.4 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 130 hPa at 20°C
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.489 g/cm <sup>3</sup>
Solubility	: Water: Miscible in water
Log Pow	: 2.1

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Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Air contact. Direct sunlight.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Thermal decomposition generates : Corrosive vapours.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Inhalation: Harmful if inhaled.
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 1
Serious eye damage/irritation	: Serious eye damage, category 1, implicit pH: 1
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - water : Harmful to aquatic life with long lasting effects.

#### 12.2. Persistence and degradability

##### TRIFLUOROACETIC ACID For HPLC & UV Spectroscopy (76-05-1)

Persistence and degradability	May cause long-term adverse effects in the environment.
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#### 12.3. Bioaccumulative potential

##### TRIFLUOROACETIC ACID For HPLC & UV Spectroscopy (76-05-1)

Log Pow	2.1
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#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR)	: 2699
UN-No. (IMDG)	: 2699
UN-No. (IATA)	: 2699
UN-No. (ADN)	: 2699
UN-No. (RID)	: 2699

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: TRIFLUOROACETIC ACID
Proper Shipping Name (IMDG)	: TRIFLUOROACETIC ACID
Proper Shipping Name (IATA)	: Trifluoroacetic acid
Proper Shipping Name (ADN)	: TRIFLUOROACETIC ACID
Proper Shipping Name (RID)	: TRIFLUOROACETIC ACID
Transport document description (ADR)	: UN 2699 TRIFLUOROACETIC ACID, 8, I, (E)
Transport document description (IMDG)	: UN 2699 TRIFLUOROACETIC ACID, 8, I

# TRIFLUOROACETIC ACID For HPLC & UV Spectroscopy

## Safety Data Sheet

Transport document description (IATA) : UN 2699 Trifluoroacetic acid, 8, I  
Transport document description (ADN) : UN 2699 TRIFLUOROACETIC ACID, 8, I  
Transport document description (RID) : UN 2699 TRIFLUOROACETIC ACID, 8, I

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 8  
Danger labels (ADR) : 8



#### IMDG

Transport hazard class(es) (IMDG) : 8  
Danger labels (IMDG) : 8



#### IATA

Transport hazard class(es) (IATA) : 8  
Hazard labels (IATA) : 8



#### ADN

Transport hazard class(es) (ADN) : 8  
Danger labels (ADN) : 8



#### RID

Transport hazard class(es) (RID) : 8  
Danger labels (RID) : 8



### 14.4. Packing group

Packing group (ADR) : I  
Packing group (IMDG) : I

# TRIFLUOROACETIC ACID For HPLC & UV Spectroscopy

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Packing group (IATA)	: I
Packing group (ADN)	: I
Packing group (RID)	: I

### 14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR)	: C3
Limited quantities (ADR)	: 0
Excepted quantities (ADR)	: E0
Packing instructions (ADR)	: P001
Mixed packing provisions (ADR)	: MP8, MP17
Portable tank and bulk container instructions (ADR)	: T10
Portable tank and bulk container special provisions (ADR)	: TP2
Tank code (ADR)	: L10BH
Vehicle for tank carriage	: AT
Transport category (ADR)	: 1
Special provisions for carriage - Operation (ADR)	: S20
Hazard identification number (Kemler No.)	: 88
Orange plates	:



Tunnel restriction code (ADR)	: E
EAC code	: 2X
APP code	: B

#### - Transport by sea

Packing instructions (IMDG)	: P001
Tank instructions (IMDG)	: T10
Tank special provisions (IMDG)	: TP2
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-B
Stowage category (IMDG)	: B
Stowage and handling (IMDG)	: SW1, SW2, H2
Properties and observations (IMDG)	: Colourless, fuming, hygroscopic liquid with a pungent odour. Miscible with water. When heated to decomposition or in contact with acids evolves toxic gases. In the presence of moisture, highly corrosive to most metals. Vapours are highly irritating to skin, eyes and mucous membranes. Liquid causes severe burns to skin, eyes and mucous membrane
MFAG-No	: 154

#### - Air transport

PCA Excepted quantities (IATA)	: E0
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: 850



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PCA max net quantity (IATA)	: 0.5L
CAO packing instructions (IATA)	: 854
CAO max net quantity (IATA)	: 2.5L
ERG code (IATA)	: 8N

### - Inland waterway transport

Classification code (ADN)	: C3
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP, EP
Number of blue cones/lights (ADN)	: 0

### - Rail transport

Classification code (RID)	: C3
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P001
Mixed packing provisions (RID)	: MP8, MP17
Portable tank and bulk container instructions (RID)	: T10
Portable tank and bulk container special provisions (RID)	: TP2
Tank codes for RID tanks (RID)	: L10BH
Special provisions for RID tanks (RID)	: TU38, TE22
Transport category (RID)	: 1
Hazard identification number (RID)	: 88

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

TRIFLUOROACETIC ACID For HPLC & UV Spectroscopy is not on the REACH Candidate List

TRIFLUOROACETIC ACID For HPLC & UV Spectroscopy is not on the REACH Annex XIV List

#### 15.1.2. National regulations

##### Germany

Reference to AwSV : Water hazard class (WGK) 2, significant hazard to water (Classification according to AwSV; ID No. 729)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

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NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

### Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

## 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Full text of R-, H- and EUH-statements:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H314	Causes severe skin burns and eye damage.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.
R20	Harmful by inhalation
R35	Causes severe burns
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
C	Corrosive
Xn	Harmful

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*