



## Safety Data Sheet

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

#### Product identifier:

Product name: Trifluoroacetic acid

Product code (SDS NO): 8028E-1

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

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Safety Management Dept. of Chemicals

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzekenri@kishida.co.jp

### 2. Hazards identification

#### GHS classification and label elements of the product

#### Classification of the substance or mixture

##### PHYSICAL AND CHEMICAL HAZARDS

Corrosive to metals: Category 1

##### HEALTH HAZARDS

Acute toxicity (Oral): Category 3

Acute toxicity (Inhalation): Category 3

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

#### Label elements



Signal word: Danger

#### HAZARD STATEMENT

May be corrosive to metals

Toxic if swallowed

Toxic if inhaled

Causes severe skin burns and eye damage

Causes serious eye damage

#### PRECAUTIONARY STATEMENT

##### Prevention

Keep only in original container.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

Do not eat, drink or smoke when using this product.

##### Response

Absorb spillage to prevent material damage.

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

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.



Wash contaminated clothing before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

#### Storage

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

Store in corrosive resistant/...container with a resistant inner liner.

#### Disposal

Dispose of contents/container in accordance with local/national regulation.

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### 3. Composition/information on ingredients

#### Mixture/Substance selection:

##### Substance

Ingredient name: Trifluoroacetic acid

Content (%): 99(min)

Chemical formula:  $\text{CF}_3\text{COOH}$

Chemicals No, Japan: 2-1185

CAS No.: 76-05-1

MW: 114.02

ECNO: 200-929-3

Note : The figures shown above are not the specifications of the product.

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### 4. First-aid measures

#### Descriptions of first-aid measures

##### IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

##### IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.

If skin irritation or rash occurs: Get medical advice/attention.

##### IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

##### IF SWALLOWED

Rinse mouth. Do NOT induce vomiting.

Call a POISON CENTER or doctor/physician if you feel unwell.

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### 5. Fire-fighting measures

#### Extinguishing media

##### Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

#### Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

#### Advice for firefighters

##### Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

##### Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.



Trifluoroacetic acid, KISHIDA CHEMICAL CO., LTD., 8028E-1, 08/07/2019

Wear protective gloves/protective clothing/eye protection/face protection.  
Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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## 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Preventive measures for secondary accident

Absorb spillage to prevent material damage.

Collect spillage.

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## 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Exhaust/ventilator

Exhaust/ventilator should be available.

Safety treatments

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures/Incompatibility

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities

Recommendation for storage

Keep container tightly closed.

chilled storage.

Incompatible storage condition

The product may corrode metal. Do not keep in a metal container.

Recommendation on container and packaging materials

Keep only in original container.

Store in corrosive resistant/...container with a resistant inner liner.

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## 8. Exposure controls/personal protection

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

**Hand protection**

Wear protective gloves.

**Eye protection**

Wear eye/face protection.

**Safety and Health measures**

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wash contaminated clothing before reuse.

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**9. Physical and Chemical Properties**

Information on basic physical and chemical properties

**Physical properties**

Appearance: Fuming liquid

Color: Colorless to almost colorless

Odor: Pungent odour

pH data N.A.

**Phase change temperature**

Initial Boiling Point/Boiling point: 72°C

Boiling range data N.A.

Melting point/Freezing point: -15°C

Decomposition temperature data N.A.

Flash point data N.A.

Auto-ignition temperature data N.A.

Explosive properties data N.A.

Vapor pressure: 11 kPa (20°C)

Relative Vapor Density (Air=1): 3.9

Relative density of the Vapor/air - mixture at 20°C (Air = 1): 1.3

Specific gravity/Density: 1.5

**Solubility**

Solubility in water: 100 g/100 ml (20°C)

n-Octanol/water partition coefficient: log Pow-2.1

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**10. Stability and Reactivity****Reactivity**

N.A.

**Chemical stability**

Stable under normal storage/handling conditions.

**Possibility of hazardous reactions**

Decomposes on contact with hot surfaces or flames. This produces toxic fumes. The substance is a medium strong acid. Reacts violently with strong bases, reducing agents and oxidants.

This produces toxic and corrosive fumes including hydrogen fluoride. Attacks many metals.

This produces flammable/explosive gas (hydrogen). Attacks some forms of rubber. (ICSC 1673)

**Conditions to avoid**

Contact with incompatible materials.

Contact with fire source.

**Incompatible materials**

Strong bases, Oxidizing agents, Reducing agents, Metals

**Hazardous decomposition products**

Hydrogen fluoride, Hydrogen

**11. Toxicological Information**

## Information on toxicological effects

## Acute toxicity

## Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Trifluoroacetic acid)

rat LD50=200mg/kg (HSDB, 2007)

## Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Trifluoroacetic acid)

vapor: rat LC50=1516ppm/4hr (HSDB, 2007)

No Irritant properties data available

No Allergenic and sensitizing effects data available

No Mutagenic effects data available

No Carcinogenic effects data available

No reproductive toxicity data available

No STOT-single/repeated exposure data available

No Aspiration hazard data available

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**12. Ecological Information**

## Ecotoxicity

No Aquatic toxicity data available

## Water solubility

(Trifluoroacetic acid)

100 g/100 ml (20°C) (ICSC, 2007)

No Persistence and degradability data available

## Bioaccumulative potential

(Trifluoroacetic acid)

log Pow=-2.1 (ICSC, 2007)

No Mobility in soil data available

Ozone depleting chemical data not available

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**13. Disposal considerations**

## Waste treatment methods

Dispose of contents/container in accordance with local/national regulation.

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**14. Transport Information**

UN No.: 2699

Proper Shipping Name :

TRIFLUOROACETIC

Class or division : 8

Packing group : I

ERG GUIDE No.: 154

## IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 2699

Proper Shipping Name :

TRIFLUOROACETIC

Class or division : 8

Packing group : I

IATA Dangerous Goods Regulations



Trifluoroacetic acid, KISHIDA CHEMICAL CO., LTD., 8028E-1, 08/07/2019

UN No.: 2699

Proper Shipping Name :

TRIFLUOROACETIC

Class or division : 8

Hazard labels : Corrosive

Packing group : I

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

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## 15. Regulatory Information

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

US major regulations

TSCA

Trifluoroacetic acid

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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## 16. Other information

GHS classification and labelling

Corr. Met. 1: H290 May be corrosive to metals

Acute Tox. 3: H301 Toxic if swallowed

Acute Tox. 3: H331 Toxic if inhaled

Skin Corr. 1: H314 Causes severe skin burns and eye damage

Eye Dam. 1: H318 Causes serious eye damage

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN

IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (60th Edition) 2019

Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2019 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2017).