

Trifluoroacetic acid

40967-10X1ML

Version 1.3

Revision Date 17.12.2022

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

1.1. Product identifier

Product name : Trifluoroacetic acid

SDS-number : 000000020420

Type of product : Substance

Remarks : SDS according to Art. 31 of Regulation (EC) 1907/2006.
In accordance to the Article 14 (1) of the REACH Regulation (EC) No 1907/2006, exposure estimation and risk characterisation is not required.

Chemical name : trifluoroacetic acid

Index-No. : 607-091-00-1

REACH Registration Number : no data available

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

Use of the Substance/Mixture : Laboratory chemicals

Uses advised against : none

1.3. Details of the supplier of the safety data sheet

Company	: Honeywell International Inc. 115 Tabor Road 07950-2546 Morris Plains USA	Honeywell International, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
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Telephone :
For further information, please contact: : SafetyDataSheet@Honeywell.com

1.4. Emergency telephone number

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Emergency telephone : +1-703-527-3887 (ChemTrec-Transport)
number : +1-303-389-1414 (Medical)
Country based Poison : see chapter 15.1
Control Center

SECTION 2: Hazards identification


2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

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

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms : 

Signal word : Danger

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

Precautionary statements : P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 In case of inadequate ventilation wear respiratory protection.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302 + P352 IF ON SKIN: Wash with plenty of water.

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P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

2.3. Other hazards

Extremely corrosive and destructive to tissue. Inhaled corrosive substances can lead to a toxic oedema of the lungs. Results of PBT and vPvB assessment, see chapter 12.5.

SECTION 3: Composition/information on ingredients

3.1. Substance

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
trifluoroacetic acid	76-05-1 607-091-00-1 200-929-3	Acute Tox. 4; H332; Inhalation Skin Corr. 1A; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412	100 %	

3.2. Mixture

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.
For the full text of the H-Statements mentioned in this Section, see Section 16.

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SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:

First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

Inhalation:

When inhaled remove to fresh air and seek medical aid.

Skin contact:

Wash off immediately with plenty of water for at least 15 minutes. Call a physician immediately.

Eye contact:

Protect unharmed eye. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

Ingestion:

Rinse mouth with water. Do NOT induce vomiting. Call a physician immediately.

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

No data available

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

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Foam
Carbon dioxide (CO₂)
Dry powder

Extinguishing media which shall not be used for safety reasons:

Water

5.2. Special hazards arising from the substance or mixture

Fire may cause evolution of:

Hydrogen fluoride
Carbon oxides

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Provide adequate ventilation. Wear personal protective equipment. Unprotected persons must be kept away.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Should not be released into the environment.

6.3. Methods and materials for containment and cleaning up

Soak up with inert absorbent material.
Pick for disposal in tightly closed containers

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6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:

Exhaust ventilation at the object is necessary. Use only acid resistant equipment. Protect from atmospheric moisture and water.

Advice on protection against fire and explosion:

Normal measures for preventive fire protection.

Hygiene measures:

Take off all contaminated clothing immediately. Remove and wash contaminated clothing before re-use. Keep working clothes separately. Wash hands before breaks and at the end of workday. When using do not eat or drink.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:

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

7.3. Specific end use(s)

no additional data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
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trifluoroacetic acid	Workers / Long-term local effects		2,67 mg/m3	Inhalation	
trifluoroacetic acid	Consumers / Long-term systemic effects		42mg/kg bw/d	Ingestion	

Component	Environmental compartment / Value	Remarks
trifluoroacetic acid	Fresh water: 0,56 mg/l	Assessment factor: 10
trifluoroacetic acid	Marine water: 0,056 mg/l	Assessment factor: 100
trifluoroacetic acid	Sewage treatment plant: 83,2 mg/l	
trifluoroacetic acid	Fresh water sediment: 2,6 mg/kg dw	
trifluoroacetic acid	Marine sediment: 0,236 mg/kg dw	
trifluoroacetic acid	Soil: 0,0047 mg/kg dw	Assessment factor: 1000

8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Do not breathe vapours or spray mist.

Engineering measures

Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection:

In the case of vapour formation use a respirator with an approved filter.

Hand protection:

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Glove material: butyl-rubber

Break through time: > 480 min

Glove thickness: 0,7 mm

Butoject® 898

Gloves must be inspected prior to use.

Replace when worn.

Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer´s directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:

Safety goggles

Skin and body protection:

acid-proof protective clothing

Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	colourless
Odour	:	stinging
molecular weight	:	114,02 g/mol
Melting point/range	:	-15 °C Method: 92/69/EEC, A.1

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Boiling point/boiling range	: 72 °C at 1.013 hPa Method: 92/69/EEC, A.2
Upper explosion limit	: Not applicable
Lower explosion limit	: Not applicable
Flash point	: > 100 °C Method: 92/69/EEC, A.9
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No decomposition if used as directed.
pH	: acidic
Viscosity, kinematic	: No data available
Water solubility	: 1.000 g/l at 20 °C
Partition coefficient: n-octanol/water	: log Pow -2,1
Vapour pressure	: 124 hPa at 20 °C Method: 92/69/EEC, A.4
Vapour pressure	: 158 hPa at 25 °C Method: 92/69/EEC, A.4
Vapour pressure	: 1.390 hPa at 80 °C Method: 92/69/EEC, A.4
Density	: ca. 1,48 g/cm ³ at 20 °C
Relative vapour density	: No data available

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9.2 Other Information

The product is hygroscopic.

Evaporation rate : No data available

Viscosity, dynamic : No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

No decomposition if used as directed.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Protect from atmospheric moisture and water.

10.5. Incompatible materials

Alkalis
Bases
Metals
Water

10.6. Hazardous decomposition products

Hydrogen fluoride
Carbon oxides

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

Toxicity is determined by the corrosivity of the product.

Acute dermal toxicity:

Toxicity is determined by the corrosivity of the product.

Acute inhalation toxicity:

Classification based on Annex VI of regulation 1272/2008/EC.

Skin irritation:

Classification based on Annex VI of regulation 1272/2008/EC.

Eye irritation:

Classification based on Annex VI of regulation 1272/2008/EC.

Respiratory or skin sensitisation:

Mouse local lymph node assay

Species: Mouse

Result: non-sensitizing

Method: OECD Test Guideline 429

Test substance: REACH dossier "read-across"

Carcinogenicity:

Note: No data available

Germ cell mutagenicity:

Note: Not classified due to data which are conclusive although insufficient for classification.

Reproductive toxicity:

Remarks: Not classified due to data which are conclusive although insufficient for classification.

Aspiration hazard:

No data available

11.2. Information on other hazards

Endocrine disrupting properties

No data available

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Other information:
No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:

LC50

Species: Brachydanio rerio (zebrafish)

Value: > 1.200 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Test substance: REACH dossier "read-across"

Toxicity to aquatic plants:

EC50

Growth rate

Species: Selenastrum capricornutum (green algae)

Value: 11,4 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

EC50

Biomass

Species: Selenastrum capricornutum (green algae)

Value: 0,62 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to Microorganisms:

EC50

Respiration inhibition

Species: activated sludge

Value: > 832 mg/l

Exposure time: 3 h

Method: OECD 209

Toxicity to aquatic invertebrates:

EC50

static test

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Species: Daphnia magna (Water flea)
Value: > 999 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

12.2. Persistence and degradability

Biodegradability:
Method: OECD Test Guideline 301D
Not readily biodegradable.

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

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.

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:
Dispose according to legal requirements.

Packaging:
Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:

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Provisions relating to waste:
EC Directive 2006/12/EC; 2008/98/EEC
Regulation No. 1013/2006

For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number

ADR/RID:2699

IMDG:2699

IATA:2699

14.2 UN proper shipping name

ADR/RID:TRIFLUOROACETIC ACID

IMDG:TRIFLUOROACETIC ACID

IATA:Trifluoroacetic acid

14.3 Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

14.4 Packaging group

ADR/RID: I

IMDG: I

IATA: I

14.5 Environmental hazards

ADR/RID:no

Marine pollutant: no

14.6 Special precautions for user

IMDG Code segregation group (SGG1) – ACIDS,

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

Basis	Value	Remarks
Directive 2012/18/EC		Not applicable
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No

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		Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of ≥ 0.1 % (w/w).
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Poison Control Center

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+)35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240
	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
Munich : 089/19240	

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftinformation); +46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

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Latvia	+37167042473
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Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)
On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

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trifluoroacetic acid : H332 Harmful if inhaled.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

Further information

All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:

EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very bioaccumulative substance
PBT Persistent, bioaccumulative und toxic substance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.

This information should not constitute a guarantee for any specific product properties.
