

Hydrofluoric acid 40%

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 24/11/2017 Version: 0.0

Doc. No: SDS-932.116/1



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

1.1. Product identifier

Product form : Mixture
Product name : Hydrofluoric acid 40%

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ISOLAB Laborgeräte GmbH
Am Dillhof 2 - 63863 Eschau / GERMANY
Tel: + 49 93 74 / 978 55-0
Fax: +49 93 74 / 978 55-29
prodsafe@isolab.de

1.4. Emergency telephone number

| Country | Organisation/Company | Address | Emergency number | Comment |
|---------|--|-----------------------------------|------------------|---------|
| Germany | Giftnotruf der Charité CBF, Haus VIII (Wirtschaftgebäude), UG | Hindenburgdamm 30 12203 Berlin | +49 30 19240 | |

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute Tox. 2 (Oral) H300
Acute Tox. 1 (Dermal) H310
Acute Tox. 2 (Inhalation:vapour) H330
Skin Corr. 1A H314

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

Fatal in contact with skin. Fatal if inhaled. Fatal if swallowed. Causes severe skin burns and eye damage.

2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazardous ingredients :

Hydrofluoric acid 40%

Hazard statements (CLP) :

H300+H310+H330 - Fatal if swallowed, in contact with skin or if inhaled
H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) :

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash hands, forearms and face 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.
P284 - Wear respiratory protection.
P301 + P310 + P330 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.

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P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

P362 - Take off contaminated clothing and wash before reuse.

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

P405 - Store locked up.

P501- Dispose of contents/ container to an approved waste disposal plant.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|-----------------------|--|---------|--|
| hydrofluoric acid 40% | (CAS-No.) 7664-39-3 (EC-No.) 231-634-8 (EC Index-No.) 009-003-00-1 | 30 - 50 | Acute Tox. 2 (Inhalation), H330 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Oral), H300 Skin Corr. 1A, H314 |

Specific concentration limits:

| Name | Product identifier | Specific concentration limits |
|-----------------------|--|--|
| hydrofluoric acid 40% | (CAS-No.) 7664-39-3 (EC-No.) 231-634-8 (EC Index-No.) 009-003-00-1 | (0.1 =<C < 1) Eye Irrit. 2, H319 (1 =<C < 7) Skin Corr. 1B, H314 (C >= 7) Skin Corr. 1A, H314 |

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

| | |
|-------------------------------------|---------------------------|
| Symptoms/effects after skin contact | : Burns. |
| Symptoms/effects after eye contact | : Serious damage to eyes. |
| Symptoms/effects after ingestion | : Burns. |

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 : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| hydrofluoric acid 40% (7664-39-3) | | |
|-----------------------------------|---|------------------------|
| EU | Local name | Hydrogen fluoride |
| EU | IOELV TWA (mg/m ³) | 1.5 mg/m ³ |
| EU | IOELV TWA (ppm) | 1.8 ppm |
| EU | IOELV STEL (mg/m ³) | 2.5 mg/m ³ |
| EU | IOELV STEL (ppm) | 3 ppm |
| Germany | Local name | Fluorwasserstoff |
| Germany | TRGS 900 Occupational exposure limit value (mg/m ³) | 0.83 mg/m ³ |
| Germany | TRGS 900 Occupational exposure limit value (ppm) | 1 ppm |
| Germany | Remark (TRGS 900) | DFG;EU;Y;H |
| Turkey | Local name | Hidrojen florür |
| Turkey | OEL TWA (mg/m ³) | 1.5 mg/m ³ |
| Turkey | OEL TWA (ppm) | 1.8 ppm |
| Turkey | OEL STEL (mg/m ³) | 2.5 mg/m ³ |
| Turkey | OEL STEL (ppm) | 3 ppm |

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

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Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|--------------------------------|
| Physical state | : Liquid |
| Appearance | : Liquid. |
| Molecular mass | : 20.01 g/mol |
| Colour | : No data available on colour. |
| Odour | : No data available on odour. |
| Odour threshold | : No data available |
| pH | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : -40 °C |
| Freezing point | : No data available |
| Boiling point | : 110 °C |
| Flash point | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Not applicable |
| Vapour pressure | : 25 mmHg (20 °C) |
| Relative vapour density at 20 °C | : 1.27 |
| Relative density | : No data available |
| Density | : 1.14 g/cm ³ |
| Solubility | : No data available |
| Log Pow | : No data available |
| 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

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Fatal if swallowed. Dermal: Fatal in contact with skin. Inhalation:vapour: Fatal if inhaled.

| | |
|-------------------|---------------------|
| ATE CLP (oral) | 10 mg/kg bodyweight |
| ATE CLP (dermal) | 10 mg/kg bodyweight |
| ATE CLP (vapours) | 1 mg/l/4h |

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Serious eye damage, category 1, implicit

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

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

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

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

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

| ADR | IMDG | IATA | ADN | RID |
|---|--|---|--|--|
| 14.1. UN number | | | | |
| 1790 | 1790 | 1790 | 1790 | 1790 |
| 14.2. UN proper shipping name | | | | |
| HYDROFLUORIC ACID | HYDROFLUORIC ACID | Hydrofluoric acid | HYDROFLUORIC ACID | HYDROFLUORIC ACID |
| Transport document description | | | | |
| UN 1790 HYDROFLUORIC ACID, 8 (6.1), II, (E) | UN 1790 HYDROFLUORIC ACID, 8 (6.1), II | UN 1790 Hydrofluoric acid, 8 (6.1), II | UN 1790 HYDROFLUORIC ACID, 8 (6.1), II | UN 1790 HYDROFLUORIC ACID, 8 (6.1), II |
| 14.3. Transport hazard class(es) | | | | |
| 8 (6.1) | 8 (6.1) | 8 (6.1) | 8 (6.1) | 8 (6.1) |
| | | | | |

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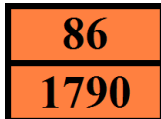


| ADR | IMDG | IATA | ADN | RID |
|--|---|------------------------------------|------------------------------------|------------------------------------|
| 14.4. Packing group | | | | |
| II | II | II | II | II |
| 14.5. Environmental hazards | | | | |
| Dangerous for the environment : No | Dangerous for the environment : No Marine pollutant : No | Dangerous for the environment : No | Dangerous for the environment : No | Dangerous for the environment : No |
| No supplementary information available | | | | |

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : CT1
Limited quantities (ADR) : 11
Excepted quantities (ADR) : E2
Packing instructions (ADR) : P001, IBC02
Mixed packing provisions (ADR) : MP15
Portable tank and bulk container instructions (ADR) : T8
Portable tank and bulk container special provisions (ADR) : TP2
Tank code (ADR) : L4DH
Tank special provisions (ADR) : TU14, TE21
Vehicle for tank carriage : AT
Transport category (ADR) : 2
Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28
Hazard identification number (Kemler No.) : 86
Orange plates :



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

- Transport by sea

Packing instructions (IMDG) : P001
Special packing provisions (IMDG) : PP81
IBC packing instructions (IMDG) : IBC02
IBC special provisions (IMDG) : B20
Tank instructions (IMDG) : T8
Tank special provisions (IMDG) : TP2
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Stowage category (IMDG) : D
Stowage and handling (IMDG) : SW1, SW2, H2
Properties and observations (IMDG) : Colourless liquid with an irritating odour. Highly corrosive to glass, other siliceous materials and most metals. Toxic if swallowed, by skin contact or by inhalation. Both the liquid and its fumes cause severe burns to skin, eyes and mucous membranes.

- Air transport

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y840
PCA limited quantity max net quantity (IATA) : 0.5L
PCA packing instructions (IATA) : 851
PCA max net quantity (IATA) : 1L
CAO packing instructions (IATA) : 855
CAO max net quantity (IATA) : 30L

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ERG code (IATA) : 8P

- Inland waterway transport

Classification code (ADN) : CT1
Special provisions (ADN) : 802
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Equipment required (ADN) : PP, EP, TOX, A
Ventilation (ADN) : VE02
Number of blue cones/lights (ADN) : 2

- Rail transport

Classification code (RID) : CT1
Limited quantities (RID) : 1L
Excepted quantities (RID) : E2
Packing instructions (RID) : P001, IBC02
Mixed packing provisions (RID) : MP15
Portable tank and bulk container instructions (RID) : T8
Portable tank and bulk container special provisions (RID) : TP2
Tank codes for RID tanks (RID) : L4DH
Special provisions for RID tanks (RID) : TU14, TE17, TE21, TT4
Transport category (RID) : 2
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28
Colis express (express parcels) (RID) : CE6
Hazard identification number (RID) : 86

14.7. Transport in bulk according to Annex II of Marpol 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

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 2, significant hazard to waters (Classification according to AwSV, Annex 1)

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 : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark

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Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

| | |
|-------|---|
| SDS | Safety Data Sheet |
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |
| CLP | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 |
| EC50 | Median effective concentration |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| OECD | Organisation for Economic Co-operation and Development |
| PBT | Persistent Bioaccumulative Toxic |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| vPvB | Very Persistent and Very Bioaccumulative |

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

| Full text of H- and EUH-statements: | |
|-------------------------------------|---|
| Acute Tox. 1 (Dermal) | Acute toxicity (dermal), Category 1 |
| Acute Tox. 2 (Inhalation) | Acute toxicity (inhal.), Category 2 |
| Acute Tox. 2 (Inhalation:vapour) | Acute toxicity (inhalation:vapour) Category 2 |
| Acute Tox. 2 (Oral) | Acute toxicity (oral), Category 2 |
| Skin Corr. 1A | Skin corrosion/irritation, Category 1A |
| H300 | Fatal if swallowed. |
| H310 | Fatal in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H330 | Fatal if inhaled. |

SDS ISOLAB

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