



Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Hydrofluoric acid 40 - 45%

Version number: 6.0
Replaces version of: 2019-08-23 (5)

Revision: 2020-12-22
First version: 2014-10-13

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

1.1 Product identifier

Trade name	<u>Hydrofluoric acid 40 - 45%</u>
Registration number (REACH)	Not relevant (mixture).
CAS number	not relevant (mixture)

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

Relevant identified uses	Industrial uses Laboratory chemicals Catalyst Intermediate
Uses advised against	Do not use for squirting or spraying Do not use for products which come into direct contact with the skin Do not use for private purposes (household)

1.3 Details of the supplier of the safety data sheet

BERGCHEMIE J.C.Bröcking & Co. GmbH Rudolfstrasse 14 42285 Wuppertal Germany	Telephone: ++49 (0) 202 - 45 60 60 Telefax: ++49 (0) 202 / 44 79 32
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e-mail (competent person) sdb@csb-online.de

Please do not use this e-mail address to ask for the latest safety data sheet. For this purpose contact BERGCHEMIE J.C.Bröcking & Co. GmbH.

1.4 Emergency telephone number

As above or nearest toxicological information centre.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

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Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
2.16	substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.1O	acute toxicity (oral)	2	Acute Tox. 2	H300
3.1D	acute toxicity (dermal)	1	Acute Tox. 1	H310
3.1I	acute toxicity (inhal.)	2	Acute Tox. 2	H330
3.2	skin corrosion/irritation	1A	Skin Corr. 1A	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

Causes poorly healing wounds.

Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

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

Signal word danger

Pictograms

GHS05, GHS06



Hazard statements

H290 May be corrosive to metals.
H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.

Precautionary statements

P234 Keep only in original packaging.
P260 Do not breathe mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
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.
P310 Immediately call a POISON CENTER/doctor.
P405 Store locked up.

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Hazardous ingredients for labelling

hydrofluoric acid

2.3 Other hazards

Substance may be absorbed through the skin.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture).

3.2 Mixtures

Description of the mixture

Hazardous ingredients					
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Specific Conc. Limits
hydrofluoric acid	CAS No 7664-39-3 EC No 231-634-8 Index No 009-003-00-1 REACH Reg. No 01-2119458860-33	50 - < 75	Met. Corr. 1 / H290 Acute Tox. 2 / H300 Acute Tox. 1 / H310 Acute Tox. 2 / H330 Skin Corr. 1A / H314 Eye Dam. 1 / H318		Skin Corr. 1A; H314: C ≥ 7 % Skin Corr. 1B; H314: 1 % ≤ C < 7 % Eye Dam. 1; H318: C ≥ 1 % Eye Irrit. 2; H319: 0.1 % ≤ C < 1 %
Name of substance	CAS No	Specific Conc. Limits	M-Factors	ATE	Exposure route
hydrofluoric acid	7664-39-3	Skin Corr. 1A; H314: C ≥ 7 % Skin Corr. 1B; H314: 1 % ≤ C < 7 % Eye Dam. 1; H318: C ≥ 1 % Eye Irrit. 2; H319: 0.1 % ≤ C < 1 %		5 mg/kg 5 mg/kg 0.638 mg/l/4h	oral dermal inhalation: vapour

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Self-protection of the first aider.

Remove victim out of the danger area.

Keep affected person warm, still and covered.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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Take off immediately all contaminated clothing.

Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

In case of unconsciousness place person in the recovery position. Never give anything by mouth. Call a physician immediately.

Following inhalation

Immediately call a doctor.

Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Whilst protecting yourself remove the casualty from the hazardous area and take him to the fresh air. Even if there are no complaints, the casualty should be (if possible) carried or driven. Have him take a half-upright position.

As soon as possible repeatedly have the casualty deeply breath a glucocorticoid inhalation spray in.

In the case of breathing difficulties have the casualty inhale oxygen.

Lay the casualty down in a quiet place and protect him against hypothermia.

Following skin contact

Call a physician immediately. Immediate decontamination! It could be lifesaving.

Remove contaminated clothing while protecting yourself.

Rinse contaminated skin (and mucous membranes) with plenty of water thoroughly.

Then apply calcium gluconate gel (2.5%) generously and rub it in gently even if there is no pain. Rinse with water then apply again. Continue this treatment until pain has disappeared then continue 15 minutes.

If the calcium gluconate gel is not available, apply compresses soaked with 10% calcium gluconate solution to the affected area.

Arrange for medical treatment.

Following contamination of large areas immediately put the casualty under a shower (if a deluge shower is available, remove clothing in the shower, otherwise before showering).

First aid operators must take care to protect themselves!

Once rinsed, the skin should be covered with calcium gluconate compresses.

Lay the casualty down in a quiet place to rest and protect him against hypothermia.

Always immediately call a physician to the site of the accident.

If the body has been moistened with acid of >40%, in particular if the upper part of the body has been contaminated, simultaneous massive inhalation is likely.

Causes poorly healing wounds.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing.

Danger of blindness!

As soon as possible:

Rinse the affected eye with widely spread lids for 10 minutes under running water whilst protecting the unimpaired eye.

Turn the mild water jet directly towards the eye: residues of the acid must be rapidly diluted and completely removed.

Apply loose, sterile bandage.

Transport the casualty to eye doctor/hospital immediately. .

The use of calcium gluconate for rinsing the eyes is no longer recommended, because of possible calcification in the corneal stroma. Under no circumstances should rinsing solutions containing phos-

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phates be used on the eyes as these bind calcium ions.

Following ingestion

Immediately call a doctor.

Call a physician in any case.

Rinse mouth. Do not induce vomiting.

Drink 1% calcium gluconate solution in small sips (if not available: alternatively milk or chalk slurry, otherwise water).

Observe aspiration hazard if vomiting occurs.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

Nausea, Vomiting.

Causes poorly healing wounds.

Fatal if swallowed, in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

4.3 Indication of any immediate medical attention and special treatment needed

Decontamination techniques.

Rinse copiously with a calcium gluconate solution.

Rub with a gel containing calcium gluconate.

Subsequent observance for pneumonia and pulmonary oedema.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Co-ordinate firefighting measures to the fire surroundings

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Substance or mixture corrosive to metals.

Hazardous combustion products

hydrogen fluoride (HF), pyrolysis products, toxic, Corrosive gases / vapors

5.3 Advice for firefighters

Non-combustible.

In case of fire and/or explosion do not breathe fumes.

Co-ordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

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Special protective equipment for firefighters

use suitable breathing apparatus, chemical protection suit

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Do not get in eyes, on skin, or on clothing.

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

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

Chemical protection suit.

Warning and evacuating people in the neighbourhood.

6.2 Environmental precautions

In case of formation of gases/vapours/mists suppress with water spray

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to clean up a spill

Collect spillage.

Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

Dilute with plenty of water.

Appropriate containment techniques

Use of adsorbent materials.

Neutralisation techniques.

Calcium hydroxide.

Unsuitable materials: Kalzinierte Soda, Natriumkarbonat wasserfrei(Na_2CO_3) / Sodium carbonate anhydrous(Na_2CO_3).

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Local and general ventilation.
Avoid contact with skin and eyes.
Handle and open container with care.

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.
Never add water to this product.
Non-combustible.

Specific notes/details

Avoid exposure - obtain special instructions before use.

Handling of incompatible substances or mixtures

Do not mix with alkali.
Do not mix with oxidiser

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash hands after use.
Preventive skin protection (barrier creams/ointments) is recommended.
Never keep food or drink in the vicinity of chemicals.
Wash contaminated clothing before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

heat, frost, sunlight

Consideration of other advice

Keep away from food, drink and animal feeding stuffs.

Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.
Provision of sufficient ventilation.

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Specific designs for storage rooms or vessels

Store locked up.

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

Keep in a cool place.

Packaging compatibilities

Keep only in original container.

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)								
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Source
EU	hydrogen fluoride	7664-39-3	IOELV	1.8	1.5	3	2.5	2000/39/EC
GB	hydrogen fluoride	7664-39-3	WEL	1.8	1.5	3	2.5	EH40/2005

Notation

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
hydrofluoric acid	7664-39-3	DNEL	1.5 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
hydrofluoric acid	7664-39-3	DNEL	1.5 µg/m ³	human, inhalatory	worker (industry)	chronic - local effects

Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
hydrofluoric acid	7664-39-3	PNEC	0.9 mg/l	freshwater
hydrofluoric acid	7664-39-3	PNEC	0.9 mg/l	marine water
hydrofluoric acid	7664-39-3	PNEC	51 mg/l	sewage treatment plant (STP)

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Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
hydrofluoric acid	7664-39-3	PNEC	11 mg/kg	soil

8.2 Exposure controls

Appropriate engineering controls

Local and general ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Use safety goggle with side protection.

Wear face-shield.

Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
FKM: fluoro-elastomer	≥ 0,4 mm	>480 minutes (permeation: level 6)
IIR: isobutene-isoprene (butyl) rubber	≥ 0,5 mm	>240 minutes (permeation: level 5)
CR: chloroprene (chlorobutadiene) rubber	≥ 0,5 mm	>480 minutes (permeation: level 6)

Unsuitable materials
Material
plastic and rubber
NR: natural rubber, latex
NBR: acrylonitrile-butadiene rubber
PVC: polyvinyl chloride

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

In the case of wanting to use the gloves again, clean them before taking off and air them well.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Type: E (against acidic gases like sulphur dioxide or hydrogen chloride, colour code: Yellow).

E-P2/P3.

Self-contained breathing apparatus.

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Environmental exposure controls

Use appropriate container to avoid environmental contamination.
Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	Colourless
Odour	Stinging
Melting point/freezing point	~-40 °C
Boiling point or initial boiling point and boiling range	~110 °C
Flammability	Non-combustible
Lower and upper explosion limit	Not determined
Flash point	Not determined
Auto-ignition temperature	These information are not available
Decomposition temperature	Not relevant
pH (value)	<1 (20 °C) (acid)
Kinematic viscosity	Not determined
Solubility(ies)	
Water solubility	Miscible in any proportion
Partition coefficient	
partition coefficient n-octanol/water (log value)	Not relevant (inorganic)
Vapour pressure	13 hPa at 20 °C 43 Pa at 40 °C (40%)
Density and/or relative density	
Density/ relative density	1.14 g/cm ³ at 20 °C (40%)
Vapour density	These information are not available
Relative vapour density	not relevant (liquid)

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Particle characteristics no data available

Other safety parameters

Relative self-ignition temperature for solids Not relevant
(Fluid)

9.2 Other information

Information with regard to physical hazard classes there is no additional information

Other safety characteristics there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

Substance or mixture corrosive to metals.
Reactions with light metals to form hydrogen.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

Strong exothermic reaction with strong alkalis, Oxidiser
Light metals (due to the release of hydrogen in an acid/alkaline medium).

10.4 Conditions to avoid

Keep away from heat.
Frost.
Containments may explode when heated.
May be corrosive to metals.

10.5 Incompatible materials

bases, oxidisers, alkali metal, metal, sulphuric acid, Chlorsulfonsäure (chlorosulfonic acid), fluorine, permanganates, for example potassium permanganate, phosphorus oxides (P_xO_y), glass, Silikat / Silicate

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

As a result of heating:
hydrogen fluoride (HF)

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SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Classification procedure

If not otherwise specified the classification is based on:
Ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Test data are not available for the complete mixture.
Fatal if swallowed.
Fatal in contact with skin.
Fatal if inhaled.

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
hydrofluoric acid	7664-39-3	oral	5 mg/kg
hydrofluoric acid	7664-39-3	dermal	5 mg/kg
hydrofluoric acid	7664-39-3	inhalation: vapour	0.638 mg/l/4h

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Classification procedure

The classification is based on an extreme pH value.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Skin sensitisation

Shall not be classified as a skin sensitiser.

Respiratory sensitisation

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Carcinogenicity

Shall not be classified as carcinogenic.

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Reproductive toxicity

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Test data are not available for the complete mixture.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Method	Source	Exposure time
hydrofluoric acid	7664-39-3	EC50	26 – 48 mg/l	Trichoptera		ECHA	96 h
hydrofluoric acid	7664-39-3	ErC50	43 mg/l	algae		ECHA	96 h

Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Method	Source	Exposure time
hydrofluoric acid	7664-39-3	NOEC	4 mg/l	rainbow trout (Oncorhynchus mykiss)		ECHA	21 d
hydrofluoric acid	7664-39-3	NOEC	3.7 mg/l	daphnia magna		ECHA	21 d

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Name of substance	CAS No	Endpoint	Value	Species	Method	Source	Exposure time
hydrofluoric acid	7664-39-3	NOEC	50 mg/l	algae		ECHA	7 d

12.2 Persistence and degradability

Biodegradation

The study does not need to be conducted, the relevant substances in the mixture are inorganic.

Persistence

No data available.

12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF
hydrofluoric acid	7664-39-3	53 - 58

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): 2

Do not empty into drains or surface water.

PH extreme: Before discharge of the waste water into a municipal waste water treatment facility the product normally needs to be neutralised.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste.

Sewage disposal-relevant information

Do not empty into drains.

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Waste treatment of containers/packagings

Completely emptied packages can be recycled.
Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.
Personal protective equipment: see section 8.

SECTION 14: Transport information

14.1 UN number

ADR/RID/ADN	1790
IMDG-Code	1790
ICAO-TI	1790

14.2 UN proper shipping name

ADR/RID/ADN	HYDROFLUORIC ACID
IMDG-Code	HYDROFLUORIC ACID
ICAO-TI	Hydrofluoric acid

14.3 Transport hazard class(es)

ADR/RID/ADN	8 (6.1)
IMDG-Code	8 (6.1)
ICAO-TI	8 (6.1)

14.4 Packing group

ADR/RID/ADN	II
IMDG-Code	II
ICAO-TI	II

14.5 Environmental hazards

-

14.6 Special precautions for user

-

14.7 Maritime transport in bulk according to IMO instruments

-

14.8 Information for each of the UN Model Regulations

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Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

Additional information

Classification code	CT1
Danger label(s)	8+6.1
	
Special provisions (SP)	802(ADN)
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	86
Emergency Action Code	2X

International Maritime Dangerous Goods Code (IMDG) Additional information

Marine pollutant	-
Danger label(s)	8+6.1
	
Special provisions (SP)	-
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-A, S-B
Stowage category	D
Segregation group	1 - Acids.

International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Danger label(s)	8+6.1
	
Excepted quantities (EQ)	E2
Limited quantities (LQ)	0,5 L

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SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)				
Name of substance	Name acc. to inventory	Type of registration	Restriction	No
hydrofluoric acid	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC	1907/2006/EC annex XVII	R3	3

Legend

- R3
1. Shall not be used in:
 - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
 - tricks and jokes,
 - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
 2. Articles not complying with paragraph 1 shall not be placed on the market.
 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
 - can be used as fuel in decorative oil lamps for supply to the general public, and,
 - present an aspiration hazard and are labelled with R65 or H304,
 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
 - (a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010, 'Just a sip of lamp oil - or even sucking the wick of lamps - may lead to life-threatening lung damage';
 - (b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter may lead to life threatening lung damage';
 - (c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
 6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.
 7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

None of the ingredients are listed.

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Seveso Directive

2012/18/EU (Seveso III)			
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
H1	acute toxic (cat. 1)	5 20	40)

Notation

40) category 1, all exposure routes

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

None of the ingredients are listed.

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Water Framework Directive (WFD)

None of the ingredients are listed.

Regulation 98/2013/EU on the marketing and use of explosives precursors

None of the ingredients are listed.

Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)

None of the ingredients are listed.

Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)

None of the ingredients are listed.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier. Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Indication of changes: Section 4, 9

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2000/39/EC	Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
Acute Tox.	Acute toxicity

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Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	European Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code

Hydrofluoric acid 40 - 45%

Abbr.	Descriptions of used abbreviations
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
Met. Corr.	Substance or mixture corrosive to metals
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
SVHC	Substance of Very High Concern
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Hydrofluoric acid 40 - 45%

Code	Text
H290	May be corrosive to metals.
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.

Responsible for the safety data sheet

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Disclaimer

This information is based upon the present state of our knowledge.
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