



# Safety Data Sheet

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

## Hydrofluoric acid 20%

Version number: 12.1  
Replaces version of: 2019-03-15 (12)

Revision: 2019-08-23  
First version: 2006-04-06

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

#### 1.1 Product identifier

<b>Trade name</b>	<u>Hydrofluoric acid 20%</u>
<b>Registration number (REACH)</b>	not relevant (mixture)
<b>CAS number</b>	not relevant (mixture)

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

<b>Relevant identified uses</b>	Industrial uses Chemicals for various applications Surface treatment Laboratory chemicals Catalyst Intermediate
<b>Uses advised against</b>	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](mailto:sdb@csb-online.de)

Please do not use this e-mail adress 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 next toxicological information centre.

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

# Hydrofluoric acid 20%

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

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.)	3	Acute Tox. 3	H331
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.

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** Fatal if swallowed or in contact with skin.  
**H314** Causes severe skin burns and eye damage.  
**H331** Toxic if inhaled.

### Precautionary statements

**P234** Keep only in original container.  
**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/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.

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## Precautionary statements

**P405** Store locked up.

**Hazardous ingredients for labelling** hydrofluoric acid

## 2.3 Other hazards

Substance may be absorbed through the skin.  
Causes poorly healing wounds.

## 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	20	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 %

## 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.

Take off immediately all contaminated clothing.

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

In all cases of doubt, or when symptoms persist, seek medical advice.

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

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## **Following inhalation**

Provide fresh air.

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.

## **Following skin contact**

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.

Rub with a gel containing calcium gluconate.

Call a physician immediately. Causes poorly healing wounds.

## **Following eye contact**

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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

Rinse copiously with a calcium gluconate solution.

## **Following ingestion**

Rinse mouth immediately and drink plenty of water.

Do NOT induce vomiting.

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

Call a physician in any case.

## **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

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## 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 / vapours

## 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.

### Special protective equipment for firefighters

use suitable breathing apparatus

## 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.

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.).

#### Appropriate containment techniques

Neutralisation techniques.

Use of adsorbent materials.

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## 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.

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## Protect against external exposure, such as

heat, frost, sunlight

## Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

## 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.

## 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 <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	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 <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects

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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	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)
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 goggles with side protection.

Wear face-shield.

##### Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
FKM: fluoro-elastomer	≥ 0,7 mm	>480 minutes (permeation: level 6)

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.

##### Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.



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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	liquid
Form	fluid
Colour	colourless
Odour	stinging
Odour threshold	these information are not available

#### Other safety parameters

pH (value)	<1 (20 °C) acid
Melting point/freezing point	~-30 °C, (40%)
Initial boiling point and boiling range	~108 °C
Flash point	not applicable
Evaporation rate	these information are not available
Flammability (solid, gas)	not relevant (fluid)

#### Explosive limits

**Lower explosion limit (LEL)** these information are not available

**Upper explosion limit (UEL)** these information are not available

Vapour pressure	13 hPa at 20 °C 43 Pa at 40 °C (40%)
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Density	1.06 g/cm <sup>3</sup> at 20 °C (40%)
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Vapour density these information are not available

Relative density these information are not available

#### Solubility(ies)

**Water solubility** miscible in any proportion

#### Partition coefficient

n-octanol/water (log KOW) these information are not available

Auto-ignition temperature these information are not available

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

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Decomposition temperature these information are not available

### Viscosity

**Kinematic viscosity** these information are not available

**Dynamic viscosity** these information are not available

Explosive properties not explosive

Oxidising properties shall not be classified as oxidising

## 9.2 Other information

None

## 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, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
May be corrosive to metals.  
Frost.  
Containments may explode when heated.

### 10.5 Incompatible materials

bases, oxidisers, alkali metal, metal, sulphuric acid, Chlorsulfonsäure (chlorosulfonic acid), fluorine, permanganates, e.g. potassium permanganate, phosphorus oxides (P<sub>x</sub>O<sub>y</sub>), glass

### 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 toxicological effects

#### 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

Fatal if swallowed.  
Fatal in contact with skin.  
Toxic if inhaled.

#### Acute toxicity estimate (ATE)

**Oral** 25 mg/kg  
**Dermal** 25 mg/kg  
**Inhalation: vapour** 2.5 mg/l/4h

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	0.5 mg/l/4h

Acute toxicity of components of the mixture							
Name of substance	CAS No	Exposure route	End-point	Value	Species	Method	Source
hydrofluoric acid	7664-39-3	inhalation: vapour	LC50	1,276 mg/m <sup>3</sup> /1h	rat		RTECS

#### 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.

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## 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.

### 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.

## 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	EC50	43 mg/l	algae		ECHA	96 h

#### Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

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## 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	14.1 mg/l	daphnia magna		ECHA	21 d

## 12.2 Persistence and degradability

### Biodegradation

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

### Persistence

Data are not 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

Data are not 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 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.

#### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

Handle contaminated packages in the same way as the substance itself.

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## Remarks


Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

<b>14.1</b>	<b>UN number</b>	1790
<b>14.2</b>	<b>UN proper shipping name</b>	HYDROFLUORIC ACID
<b>14.3</b>	<b>Transport hazard class(es)</b>	
	<b>Class</b>	8
	<b>Subsidiary risk(s)</b>	6.1 (acute toxicity)
<b>14.4</b>	<b>Packing group</b>	II
<b>14.5</b>	<b>Environmental hazards</b>	non-environmentally hazardous acc. to the dangerous goods regulations
<b>14.6</b>	<b>Special precautions for user</b>	There is no additional information.
<b>14.7</b>	<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	The cargo is not intended to be carried in bulk.


## **14.8** Information for each of the UN Model Regulations

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


UN number	1790
Proper shipping name	UN1790, HYDROFLUORIC ACID, 8 (6.1), II, (E)
Class	8
Classification code	CT1
Packing group	II
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

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Emergency Action Code	2X
<b>International Maritime Dangerous Goods Code (IMDG)</b>	
UN number	1790
Proper shipping name	UN1790, HYDROFLUORIC ACID, 8 (6.1), II
Class	8
Subsidiary risk(s)	6.1
Marine pollutant	-
Packing group	II
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)

UN number	1790
Proper shipping name	UN1790, Hydrofluoric acid, 8 (6.1), II
Class	8
Subsidiary risk(s)	6.1
Packing group	II
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 20%	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

## Directive 2000/60/EC establishing a framework for Community action in the field of water policy (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

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

Indication of changes: Section 8

### 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
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)
ATE	Acute Toxicity Estimate

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Abbr.	Descriptions of used abbreviations
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 ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
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
IMDG	International Maritime Dangerous Goods Code
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
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
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

# Hydrofluoric acid 20%

Abbr.	Descriptions of used abbreviations
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)

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.
H331	Toxic if inhaled.

## Responsible for the safety data sheet

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## **Disclaimer**

This information is based upon the present state of our knowledge.  
This SDS has been compiled and is solely intended for this product.