

**ICP-MS Verification Std 2**

Revision: 05.02.2024

Product code: AC18.06188

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**1. Identification****Product identifier**

ICP-MS Verification Std 2

**Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Reagents and laboratory chemicals  
Only for laboratory and analysis purposes.

**Uses advised against**

Do not use for private purposes (household).

**Details of the supplier of the safety data sheet****Details of the supplier of the safety data sheet**

Company name: AnalytiChem Services, Unipessoal, Lda  
Street: Rua de Júlio Dinis 676 7º  
Place: P-4050-320 Porto  
Telephone: +351 226002917  
E-mail: info@analytichem.com  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Internet: www.analytichem.com  
Responsible Department: SDS service department

**Supplier or manufacturer details**

Company name: AnalytiChem Canada Inc.  
Street: Québec, CANADA  
Place: 21800 Clark Graham Ave  
CDN-H9X 4B6 Baie-D'Urfé  
Telephone: +1 (800) 361-6820  
E-mail: info@analytichem.com  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Internet: www.analytichem.com  
Responsible Department: AnalytiChem:  
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20  
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200  
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848  
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500  
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378  
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701  
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333  
Telefax: +1 (800) 253-5549

**Emergency telephone number:**

+1 703-741-5970 (CHEMTREC)

**Further Information**

This product is a mixture. REACH Registration Number see section 3.

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**2. Hazard identification****Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Acute Tox. 3; H311  
Acute Tox. 4; H332  
Acute Tox. 4; H302  
Skin Corr. 1B; H314  
Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

**Label elements****Regulation (EC) No 1272/2008****Hazard components for labelling**

hydrofluoric acid 1 %

**Signal word:** Danger**Pictograms:****Hazard statements**

H302+H332 Harmful if swallowed or if inhaled.  
H311 Toxic in contact with skin.  
H314 Causes severe skin burns and eye damage.

**Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
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.

**Additional advice on labelling**

No information available.

**Other hazards**

No data available

**3. Composition/information on ingredients****Mixtures****Chemical characterization**

Mixtures in aqueous solution

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## Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7664-39-3	Hydrofluoric acid ... %			0.1 - < 5 %
	231-634-8	009-003-00-1	01-2119458860-33	
	Acute Tox. 1, Acute Tox. 2, Acute Tox. 2, Skin Corr. 1A, Eye Dam. 1; H310 H330 H300 H314 H318			

Full text of H statements: see section 16.

## Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
7664-39-3	231-634-8	Hydrofluoric acid ... %	0.1 - < 5 %
	inhalation: ATE = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); inhalation: LC50 = 2240 ppm (gases); dermal: ATE = 5 mg/kg; oral: ATE = 5 mg/kg Skin Corr. 1A; H314: >= 7 - 100 Skin Corr. 1B; H314: >= 1 - < 7 Eye Irrit. 2; H319: >= 0,1 - < 1		

## Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

## 4. First-aid measures

Description of first aid measures

## General information

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.  
Call a physician immediately.  
fast help required

## After inhalation

Provide fresh air.  
If breathing is irregular or stopped, administer artificial respiration.  
Call a physician immediately.

## After contact with skin

Rinse with plenty of water for at least 10 minutes. Immediately remove contaminated clothes. Apply calcium gluconate gel (preparation: boil 5 g of calcium gluconate in 85 ml of hot distilled water, add 10 g glycerol. Allow 5 g of Carmellose-sodium to swell in the hot solution. Stable for 6 months, store in a cool place) and massage into the skin until the pain subsides, in between rinse with water and apply fresh gel. Continue gel therapy for another 15 minutes after the pain has subsided. If no calcium gluconate gel is available, apply several dressings thoroughly moistened with 20 % calcium gluconate solution. Medical advice absolutely required!

## After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.  
Remove contact lenses, if present and easy to do. Continue rinsing. Protect uninjured eye.

## After ingestion

Never give anything by mouth to an unconscious person or a person with cramps.  
Rinse mouth immediately and drink plenty of water.  
Adverse human health effects and symptoms:  
Gastric perforation  
Remove casualty to fresh air and keep warm and at rest.  
Call a physician immediately.

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**Most important symptoms and effects, whether acute or delayed**

Irritant  
Causes burns.  
Cough  
Dyspnoea  
Risk of serious damage to eyes.  
Gastric perforation  
Circulatory collapse  
Pulmonary oedema  
Vomiting  
seizures  
Pneumonia

**Indication of immediate medical attention and special treatment needed**

It is recommended to consult a doctor with experience in the treatment of lesions caused by hydrofluoric acid

**5. Fire-fighting measures****Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

**Unsuitable extinguishing media**

no restriction

**Specific hazards arising from the hazardous product**

Non-combustible liquids  
Hazardous combustion products  
In case of fire may be liberated: Hydrogen fluoride

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

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.  
In case of fire and/or explosion do not breathe fumes. Use water spray jet to protect personnel and to cool endangered containers.

**Additional information**

Suppress gases/vapours/mists with water spray jet.  
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Move undamaged containers from immediate hazard area if it can be done safely.

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Provide adequate ventilation.  
Use personal protection equipment.  
Avoid contact with skin, eyes and clothes.  
Remove persons to safety.  
Emergency procedures  
Consult an expert  
Do not breathe dust/fume/gas/mist/vapours/spray.

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**Environmental precautions**

Do not allow to enter into surface water or drains.

**Methods and material for containment and cleaning up**

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**For containment**

- Cover drains.
- Prevent spread over a wide area (e.g. by containment or oil barriers).
- Collect in closed and suitable containers for disposal.
- Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

**For cleaning up**

- Clean contaminated articles and floor according to the environmental legislation.

**Other information**

- Provide adequate ventilation.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**Reference to other sections**

- Safe handling: see section 7
- Personal protection equipment: see section 8
- Disposal: see section 13

**7. Handling and storage****Precautions for safe handling****Advice on safe handling**

- Avoid exposure - obtain special instructions before use.
- Read label before use. Handle and open container with care.
- When using do not eat, drink, smoke, sniff. Keep container tightly closed.
- Use personal protection equipment. Use extractor hood (laboratory).
- Provide adequate ventilation. Do not inhale fog/steam/aerosol.
- Avoid contact with skin, eyes and clothes.

**Advice on protection against fire and explosion**

- Usual measures for fire prevention.

**Advice on general occupational hygiene**

- Keep away from food, drink and animal feedingstuffs. Make available sufficient washing facilities
- Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

**Further information on handling**

- Draw up and observe skin protection programme.
- Wash hands and face before breaks and after work and take a shower if necessary.
- Take off immediately all contaminated clothing and wash it before reuse.
- If handled uncovered, arrangements with local exhaust ventilation have to be used.

**Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

- Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations.
- storage temperature +5°C - +30°C

**Hints on joint storage**

- Take national regulations into account.

**Further information on storage conditions**

- Store in a dry place.
- Suitable container/equipment material: plastic
- Unsuitable container/equipment material: Metal Glass

**Specific end use(s)**

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Laboratory chemicals

**8. Exposure controls/Personal protection**

**Control parameters**

**Exposure limits (ACGIH)**

CAS No	Chemical name	ppm	mg/m <sup>3</sup>	Category	Origin
7664-39-3	Hydrogen fluoride, as F	0.5		TWA (8 h)	ACGIH-2025
		2		Peak	ACGIH-2025

**Biological limit values**

CAS No	Chemical name	Parameter	Value	Test material	Sampling time
-	FLUORIDES (ACGIH 2025)	Fluoride	2 mg/L	urine	Prior to shift

**DNEL/DMEL values**

CAS No	Chemical name	Exposure route	Effect	Value
7664-39-3	Hydrofluoric acid ... %			
Worker DNEL, long-term		inhalation	systemic	1,5 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	systemic	2,5 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	local	1,5 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	2,5 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	systemic	0,03 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	systemic	0,03 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	local	0,2 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	local	1,25 mg/m <sup>3</sup>
Consumer DNEL, long-term		oral	systemic	0,01 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,01 mg/kg bw/day

**PNEC values**

CAS No	Chemical name	Value
7664-39-3	Hydrofluoric acid ... %	
Freshwater		0,89 mg/l
Marine water		0,089 mg/l
Freshwater sediment		3,38 mg/kg
Marine sediment		0,338 mg/kg
Micro-organisms in sewage treatment plants (STP)		51 mg/l
Soil		10,6 mg/kg

**Exposure controls**

**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Technical measures and the application of suitable work processes have priority over personal protection

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equipment.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Suitable eye protection:

goggles

Face protection umbrella

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact

Trade name/designation: KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

**Skin protection**

Wear suitable protective clothing.

Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

**Respiratory protection**

Respiratory protection necessary at: aerosol or mist formation

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**9. Physical and chemical properties****Information on basic physical and chemical properties**

Physical state:	Liquid
Colour:	colourless
Odour:	odourless

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Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		not applicable
Lower explosive limits:		not determined
Upper explosive limits:		not determined
Flash point:		X
Auto-ignition temperature:		No data available
Decomposition temperature:		not determined
pH-Value:		acidic
Viscosity / kinematic:		not determined
Water solubility:		Soluble in: Water
Solubility in other solvents not determined		
Dissolution rate:		No data available
Partition coefficient n-octanol/water:		not determined
Dispersion stability:		No data available
Vapour pressure:		not determined
Vapour pressure:		not determined
Density:		not determined
Relative density:		No data available
Bulk density:		No data available
Relative vapour density:		not determined
Particle characteristics:		No data available

**Other information****Information with regard to physical hazard classes**

Explosive properties No data available	
Sustained combustibility: Self-ignition temperature	No data available
Solid:	not applicable
Gas:	not applicable
Oxidizing properties Not oxidising.	

**Other safety characteristics**

Evaporation rate:	not determined
Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	not determined
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	not determined
Flow time:	not determined

**Further Information**

No data available

**10. Stability and reactivity**

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**Reactivity**

No data available

**Chemical stability**

The product is stable under storage at normal ambient temperatures.

**Possibility of hazardous reactions**

Alkali metals  
Fluorine  
permanganates, e.g. potassium permanganate  
Alkali (lye)  
Metal  
Nitric acid  
Acetic anhydride  
Ammonia (NH<sub>3</sub>)  
sulphuric acid  
Sodium and potassium hydroxide

(HF) Danger of inflammation or formation of inflammatory gases or vapours with: alkali metals, fluorine, organic substances, vinyl acetate. Explosive danger with: potassium permanganate, alkali hydroxides, strong bases, fluorides, potassium, metals, sodium, methanesulfonic acid, nitric acid, with glycerin. Exothermic reaction with: acetic anhydride, ammonia, ammonium hydroxide, sodium hydroxide, oleum, phosphorus oxides, silicon compounds, ethylamine, sulphuric acid, bismuth acid.

**Conditions to avoid**

Radiant heat.

**Incompatible materials**

Metal  
Glass

The product develops hydrogen in an aqueous solution in contact with metals.

**Hazardous decomposition products**

In case of fire:  
SECTION 5: Firefighting measures

**Further information**

No data available

**11. Toxicological information****Information on toxicological effects****Toxicokinetics, metabolism and distribution**

Avoid exposure - obtain special instructions before use.

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**Acute toxicity**

Toxic in contact with skin.  
 Harmful if inhaled.  
 Harmful if swallowed.  
 If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).  
 Causes poorly healing wounds.  
 Irritant  
 Causes burns.  
 Cough  
 Dyspnoea  
 Risk of serious damage to eyes.  
 Gastric perforation  
 Circulatory collapse  
 Pulmonary oedema  
 Vomiting  
 seizures  
 Pneumonia

**ATEmix calculated**

ATE (oral) 500,0 mg/kg; ATE (dermal) 500,0 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) 5,000 mg/l

CAS No	Chemical name					
	Route of exposure	Dose	Species	Source	Method	
7664-39-3	Hydrofluoric acid ... %					
	oral	ATE 5 mg/kg				
	dermal	ATE 5 mg/kg				
	inhalation vapour	ATE 0,5 mg/l				
	inhalation dust/mist	ATE 0,05 mg/l				
	inhalation (1 h) gas	LC50 2240 ppm	Rat	Study report (1990)	OECD Guideline 403	

**Irritation and corrosivity**

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

**Sensitizing effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Germ cell mutagenicity: Based on available data, the classification criteria are not met.  
 Carcinogenicity: Based on available data, the classification criteria are not met.  
 Reproductive toxicity: Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.  
 No data available

**Information on likely routes of exposure**

No data available

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**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**Information on other hazards****Endocrine disrupting properties**

No data available

**Other information**

No data available

**Further information**

Following ingestion gastric perforation  
Liver and kidney damage  
Risk of serious damage to eyes.  
Resorption (oral)  
Resorption (by inhalation)  
Resorption (dermal)  
The substance has delayed effects.  
Other dangerous properties cannot be excluded.

**12. Ecological information****Ecotoxicity**

Based on available data, the classification criteria are not met.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7664-39-3	Hydrofluoric acid ... %					
	Acute fish toxicity	LC50 299 mg/l	96 h	Salmo trutta	REACH Registration Dossier	other: U.S Environmental Protection Agen
	Acute algae toxicity	ErC50 43 mg/l	96 h	various algae species	REACH Registration Dossier	Methods not detailed in the review.
	Crustacea toxicity	NOEC 3,7 mg/l	21 d	Daphnia magna	REACH Registration Dossier	The publication is a review article of v
	Acute bacteria toxicity	EC50 2930 mg/l ( )	3 h	Activated sludge	REACH Registration Dossier	ISO 8192

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

No information available.

**BCF**

CAS No	Chemical name	BCF	Species	Source
7664-39-3	Hydrofluoric acid ... %	53 - 58	not specified	REACH Registration D

**Mobility in soil**

No information available.

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**Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**Other adverse effects**

No information available.

**Further information**

Avoid release to the environment.  
Do not allow to enter into surface water or drains.  
Do not allow to enter into soil/subsoil.  
Harmful effect due to pH shift.  
Forms corrosive mixtures with water even if diluted.

**13. Disposal considerations****Waste treatment methods****Disposal recommendations**

Send to a physico-chemical treatment facility under observation of official regulations.  
Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.  
Do not allow to enter into surface water or drains.

**Contaminated packaging**

This material and its container must be disposed of as hazardous waste.  
Handle contaminated packages in the same way as the substance itself.  
Waste codes/waste designations according to EWC/AVV

**14. Transport information****Land transport (ADR/RID)**

<b><u>UN number or ID number:</u></b>	UN 3264
<b><u>United Nations proper shipping name:</u></b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrofluoric acid)
<b><u>Transport hazard class(es):</u></b>	8
<b><u>Packing group:</u></b>	III
Hazard label:	8
Classification Code:	C1
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

**Inland waterways transport (ADN)**

<b><u>UN number or ID number:</u></b>	UN 3264
<b><u>United Nations proper shipping name:</u></b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrofluoric acid)
<b><u>Transport hazard class(es):</u></b>	8
<b><u>Packing group:</u></b>	III
Hazard label:	8
Classification Code:	C1
Special Provisions:	274

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Limited quantity: 5 L  
Excepted quantity: E1

**Marine transport (IMDG)**

**UN number or ID number:** UN 3264  
**United Nations proper shipping name:** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrofluoric acid)  
**Transport hazard class(es):** 8  
**Packing group:** III  
Hazard label: 8  
Special Provisions: 223 274  
Limited quantity: 5 L  
Excepted quantity: E1  
EmS: F-A, S-B  
Segregation group: 1 - acids

**Air transport (ICAO-TI/IATA-DGR)**

**UN number or ID number:** UN 3264  
**United Nations proper shipping name:** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrofluoric acid)  
**Transport hazard class(es):** 8  
**Packing group:** III  
Hazard label: 8  
Special Provisions: A3 A803  
Limited quantity Passenger: 1 L  
Passenger LQ: Y841  
Excepted quantity: E1  
IATA-packing instructions - Passenger: 852  
IATA-max. quantity - Passenger: 5 L  
IATA-packing instructions - Cargo: 856  
IATA-max. quantity - Cargo: 60 L

**Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**Special precautions for user**

Warning: Toxic. strongly corrosive.

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

not applicable

**15. Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****EU Regulatory information**

Restrictions on use (REACH, annex XVII):  
Entry 3, Entry 75

**National regulatory information**

Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.  
Water hazard class (D): 1 - slightly hazardous to water  
Skin resorption/Sensitization: Permeates easily through outer skin and causes poisoning.

**Chemical Safety Assessment**

Chemical safety assessments for substances in this mixture were not carried out.

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## 16. Other information

**Abbreviations and acronyms**

Acute Tox. 1: Acute toxicity

Acute Tox. 2: Acute toxicity

Acute Tox. 3: Acute toxicity

Acute Tox. 4: Acute toxicity

Skin Corr. 1A: Skin corrosion

Skin Corr. 1B: Skin corrosion

Eye Dam. 1: Serious eye damage

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

**Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008**

Classification	Classification procedure
Acute Tox. 3; H311	Calculation method
Acute Tox. 4; H332	Calculation method
Acute Tox. 4; H302	Calculation method
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method

**Relevant H statements (number and full text)**

H300	Fatal if swallowed.
H302	Harmful if swallowed.
H302+H332	Harmful if swallowed or if inhaled.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H332	Harmful if inhaled.

**Further Information**

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

*(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*