# Safety data sheet

***according to 1907/2006/EC, Article 31 Commission regulation (EU) 2020/878***

*Printing date 08.05.2023* *Version number 5.0 (replaces version 4.0)* *Revision: 08.05.2023*

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

· ***1.1 Product identifier***

· ***Trade name:*** Hydrofluoric acid, 48%, Ultratrace®, ppb-trace analysis grade

· ***Article number:*** AC1061
· ***Registration number***
A registration number is not available for this substance because the substance or its uses are exempted from registration, the annual tonnage does not require registration or the registration is planned for a later date.
· ***1.2 Relevant identified uses of the substance or mixture and uses advised against***
No further relevant information available.
· ***Application of the substance / the preparation:*** Laboratory reagent

· ***1.3 Details of the supplier of the safety data sheet***
· ***Manufacturer/Supplier:***
Scharlab, S.L.
C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa
08181 Sentmenat (Barcelona) SPAIN
Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65
email: scharlab@scharlab.com
Internet Web Site: www.scharlab.com
· ***Regional representation:***
Scharlab, S.L.
C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa
08181 Sentmenat (Barcelona) SPAIN
Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65
email: scharlab@scharlab.com
Internet Web Site: www.scharlab.com

· ***Further information obtainable from:*** Technical Department
· ***1.4 Emergency telephone number:***
Toxicological Information National Institute of Toxicology and Forensic Sciences: + 34 91 562 04 20. The information will be provided (24h/365 days)
Please contact the regional Scharlab distributor/dealer in your country
During normal opening times: Scharlab, S.L. (+34) 93 715 18 11

## SECTION 2: Hazards identification

· ***2.1 Classification of the substance or mixture***
· ***Classification according to Regulation (EC) No 1272/2008***


skull and crossbones

Acute Tox. 1 H310 Fatal in contact with skin.


corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

· ***2.2 Label elements***
· ***Labelling according to Regulation (EC) No 1272/2008***
The product is classified and labelled according to the GB CLP regulation.

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***Trade name:*** Hydrofluoric acid, 48%, Ultratrace®, ppb-trace analysis grade

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· ***Hazard pictograms***

GHS05 GHS06

· ***Signal word*** Danger

· ***Hazard-determining components of labelling:***
hydrogen fluoride
· ***Hazard statements***
H310 Fatal in contact with skin.
H314 Causes severe skin burns and eye damage.
· ***Precautionary statements***

| | |
|---|---|
| P260 | Do not breathe dusts or mists. |
| 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. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |

· ***2.3 Other hazards***
· ***Results of PBT and vPvB assessment***
· ***PBT:*** Not applicable.
· ***vPvB:*** Not applicable.

## SECTION 3: Composition/information on ingredients

· ***3.2 Mixtures***
· ***Description:*** Aqueous solution

· ***Dangerous components:***

| | | |
|---|---|---|
| CAS: 7664-39-3 | hydrogen fluoride | 25-50% |
| EINECS: 231-634-8 | Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; Skin Corr. 1A, H314 | |

· ***Additional information:*** For the wording of the listed hazard phrases refer to section 16.

## SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***General information:***
Immediately remove any clothing soiled by the product.
Remove breathing equipment only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· ***After inhalation:***
Call a doctor immediately.
Remove the affected person from the danger zone. Place the affected person in the most comfortable position possible and protect him/her from the cold.
If the affected person has breathing problems, give oxygen through a face mask.
As in the case of skin contact, 4 effervescent calcium tablets (400 mg calcium per tablet) dissolved in water can be administered orally. This administration should be repeated every 2 hours until admission to hospital.

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If calcium is not available, administer milk.
It is almost impossible for anyone conscious to inhale enough HF to seriously harm themselves, as it is too pungent and annoying to inhale voluntarily.
Prolonged and repeated exposures to low concentrations of gases can cause nasal congestion, nosebleeds and bronchitis.
Causes respiratory tract burns. May cause inflammation of the upper respiratory tract, lungs, congestion, pulmonary oedema, fever and cyanosis, which may not appear until 12/24 h after exposure and may be fatal.
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.

· ***After skin contact:***
Call a doctor immediately.
Direct contact of the liquid with the skin immediately causes burns which will intensify over time and may vary, depending on the time of contact and the speed of treatment, from erythema and vesicles to burns with necrosis and ulceration.
Dilute solutions can also cause burns, which are difficult to notice at first. Fluoride ions penetrate rapidly through skin and tissues causing soft tissue necrosis and bone decalcification. It can be absorbed through the skin in toxic amounts.
Unlike other acids, the neutralisation of this acid is a process that can take several days.
Immediately remove stained or splashed clothing, wash immediately and thoroughly with water for at least 5 minutes, then apply 2.5% Calcium Gluconate gel to the affected area and massage (rubbing) with it until the pain disappears and for a further 15 minutes.

If necessary, apply a dressing or bandage soaked in 10% calcium gluconate solution. If calcium is not available, administer milk

If calcium gluconate gel is not available, wash with water for 15 minutes.
In case of skin burns larger than the surface of the hand (approx. 150 cm2), 4 effervescent calcium tablets (400 mg calcium per tablet) dissolved in water should be administered orally. This administration should be repeated every 2 hours until admission to hospital.

If the burns are very extensive, take an integral bath in a 1-5% solution of calcium gluconate.
Immediately wash with water and soap and rinse thoroughly.

· ***After eye contact:***
Call a doctor immediately.
Immediately flush the eyes with plenty of water, holding the eyelids open for 10-15 minutes. Then irrigate with normal isotonic saline solution for 5 minutes.
Contact with the eyes causes painful burns that can lead to permanent visual defects or blindness.
Rinse opened eye for several minutes under running water. Then consult a doctor.

· ***After swallowing:***
Administer orally 6 effervescent calcium tablets dissolved in water. If calcium is not available, administer milk.
May cause necrosis of the mouth, oesophagus and stomach and may cause nausea, vomiting, diarrhoea and circulatory collapse.
Do not induce vomiting; call for medical help immediately.
Drink plenty of water and provide fresh air. Call for a doctor immediately.

· ***4.2 Most important symptoms and effects, both acute and delayed***
The main symptoms are described for the different cases of contact: skin, eyes, inhalation and ingestion.

· ***4.3 Indication of any immediate medical attention and special treatment needed***
DO NOT induce vomiting, risk of perforation.
- Calcium Gluconate 2.5% gel should be available.

- Calcium tablets (400mg Calcium per tablet) should be available.

- Milk should be available in case the above is not possible.

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It is highly recommended that emergency showers and eyewash facilities be provided in the vicinity of workplaces.

## SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents:***
No restriction in case of fire in the vicinity.
Use fire extinguishing methods suitable to surrounding conditions.
· ***For safety reasons unsuitable extinguishing agents:*** Water with full jet
· ***5.2 Special hazards arising from the substance or mixture***
In the event of heat action due to a fire in the vicinity, there is a danger of bursting. Containers must be moved to a safe area, provided this can be done safely.

Cool containers exposed to fire with water spray. When opening containers, ensure that there are no sparks or ignition sources in the vicinity.
Release of highly toxic and corrosive hydrofluoric acid fumes. Fire may cause fumes of: Hydrogen fluoride and nitrogen oxides.
· ***5.3 Advice for firefighters***
· ***Protective equipment:***
Respiratory protection and full chemical protective clothing must be provided for extinguishing work.
Remaining in the risk area only with artificial respiration systems independent of the environment.
Skin protection by observing a safe distance and wearing appropriate protective clothing.
Mouth respiratory protective device.
· ***Additional information***
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

## SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
· ***6.2 Environmental precautions:***
Do not allow to penetrate the ground/soil.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
· ***6.3 Methods and material for containment and cleaning up:***
Dilute with plenty water.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
· ***6.4 Reference to other sections***
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

## SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling***
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.

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Only handle and refill product in closed systems.
Prevent formation of aerosols.
Do not eat, drink or smoke during use.
Wash hands after handling.
· ***Information about fire - and explosion protection:*** Keep respiratory protective device available.

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:*** No special requirements.
· ***Information about storage in one common storage facility:*** Not required.
· ***Further information about storage conditions:***
Keep container tightly sealed.
See product label for storage temperature.
· ***7.3 Specific end use(s)*** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

· ***8.1 Control parameters***
· ***Ingredients with limit values that require monitoring at the workplace:***

**7664-39-3 hydrogen fluoride**
WEL Short-term value: 2.5 mg/m³, 3 ppm
Long-term value: 1.5 mg/m³, 1.8 ppm
· ***DNELs***
DNEL worker, cronic. Local and systematic effects: Inhalative - 1.5 mg/m3
DNEL worker, acute. Systematic effects: Inhalative - 2.5 mg/m3
DNEL consumer, acute. Local effects: Inhalative - 1.25 mg/m3
DNEL consumer, acute. Systematic effects: Inhalative - 0.03 mg/m3
DNEL consumer, prolonged. Local effects: Inhalative - 0.2 mg/m3
DNEL consumer, prolonged. Systematic effects: Inhalative - 0.03 mg/m3
Consumer DNEL, acute. Systemic Effects: Oral - 0.01 mg/kg
DNEL consumer, prolonged. Systematic effects: Oral - 0.01 mg/kg body weight
· ***PNECs***
PNEC (Fresh water): 0.89 mg/L
PNEC (Freshwater sediments): 3.38 mg/kg
PNEC (Sea water): 0.089 mg/L
PNEC (Seawater sediments): 0.338 mg/kg
PNEC (Residual water depuration system): 51 mg/l
PNEC (Soil): 10.6 mg/kg
· ***Additional information:*** The lists valid during the making were used as basis.

· ***8.2 Exposure controls***
· ***Appropriate engineering controls*** No further data; see section 7.
· ***Individual protection measures, such as personal protective equipment***
· ***General protective and hygienic measures:***
The use of personal protective equipment should be mandatory for handling the product.
Local exhaust recommended to keep dust or vapour emissions below the lowest permissible exposure level. Periodic monitoring of the working environment
Protective splash screens are recommended at points of use of the product.
Change work clothes after handling the product.
Do not eat, drink, smoke or sniff while working.
Shower or take a bath at the end of work.
Shower and toilet areas should be separate from changing rooms.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.

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Store protective clothing separately.
Avoid contact with the eyes and skin.

· ***Respiratory protection:***
If engineering controls, work practices and administrative controls are not effective in reducing the concentration below the exposure limit legislation, wear respiratory protection.
Appropriate respiratory equipment, depending on the level of vapours:

- All of them must be category 3 PPE.
- Face mask with replaceable filters type E1 - E2.
- Hooded mask with appropriate plastic visors and replaceable filters of the above type.
- Insulating equipment either with air line or self-contained.

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· ***Hand protection***


Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· ***Material of gloves***
Fluorocarbon rubber (Viton)
PVC gloves
Neoprene gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· ***Penetration time of glove material***
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· ***Not suitable are gloves made of the following materials:***
Leather gloves
Strong material gloves

· ***Eye/face protection***
Face shield or chemical goggles, biker or diver type, tight fitting with plastic lenses, or a face shield.
It is generally recognised that contact lenses should not be worn when working with chemicals, because such lenses can contribute to the severity of possible eye damage.
Safety glasses


Tightly sealed goggles

· ***Body protection:***
Acid resistant protective clothing
Under normal conditions, without prolonged contact with the product, apron of suitable material (e.g. viton or neoprene), normal protective clothing (coverall) with long sleeves and chemical protective boots (e.g. viton or neoprene).
For work with possible prolonged contact with the product, PPE of category 3 type 3 (liquid-tight) of suitable material (composite, viton, PVC) must be worn.

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For emergencies, a category 3 type 1 protective suit of suitable material (composite, viton, PVC) of the same materials, with self-contained breathing apparatus, should be worn.

## SECTION 9: Physical and chemical properties

| | |
|---|---|
| · ***9.1 Information on basic physical and chemical properties*** | |
| · ***General Information*** | |
| · ***Physical state*** | Fluid |
| · ***Colour:*** | Colourless |
| · ***Odour:*** | Acrid |
| · ***Odour threshold:*** | Not determined. |
| · ***Melting point/freezing point:*** | Undetermined. |
| · ***Boiling point or initial boiling point and boiling range*** | -90 °C |
| · ***Flammability*** | Not applicable. |
| · ***Lower and upper explosion limit*** | |
| · ***Lower:*** | Not determined. |
| · ***Upper:*** | Not determined. |
| · ***Flash point:*** | Not applicable. |
| · ***Decomposition temperature:*** | Not determined. |
| · ***pH at 20 °C*** | <1 |
| · ***Viscosity:*** | |
| · ***Kinematic viscosity*** | Not determined. |
| · ***Dynamic:*** | Not determined. |
| · ***Solubility*** | |
| · ***water:*** | Fully miscible. |
| · ***Partition coefficient n-octanol/water (log value)*** | Not determined. |
| · ***Vapour pressure at 20 °C:*** | 40 hPa |
| · ***Density and/or relative density*** | |
| · ***Density at 20 °C:*** | 1.16 g/cm³ |
| · ***Relative density*** | Not determined. |
| · ***Vapour density*** | Not determined. |
| · ***9.2 Other information*** | |
| · ***Appearance:*** | |
| · ***Form:*** | Fluid |
| · ***Important information on protection of health and environment, and on safety.*** | |
| · ***Ignition temperature:*** | Product is not selfigniting. |
| · ***Explosive properties:*** | Product does not present an explosion hazard. |
| · ***Solvent content:*** | |
| · ***Water:*** | 52.0 % |
| · ***Change in condition*** | |
| · ***Evaporation rate*** | Not determined. |
| · ***Information with regard to physical hazard classes*** | |
| · ***Explosives*** | Void |
| · ***Flammable gases*** | Void |
| · ***Aerosols*** | Void |
| · ***Oxidising gases*** | Void |
| · ***Gases under pressure*** | Void |
| · ***Flammable liquids*** | Void |
| · ***Flammable solids*** | Void |

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| | |
|---|---|
| · ***Self-reactive substances and mixtures*** | Void |
| · ***Pyrophoric liquids*** | Void |
| · ***Pyrophoric solids*** | Void |
| · ***Self-heating substances and mixtures*** | Void |
| · ***Substances and mixtures, which emit flammable gases in contact with water*** | Void |
| · ***Oxidising liquids*** | Void |
| · ***Oxidising solids*** | Void |
| · ***Organic peroxides*** | Void |
| · ***Corrosive to metals*** | Void |
| · ***Desensitised explosives*** | Void |

## SECTION 10: Stability and reactivity

· ***10.1 Reactivity***
Stable under normal conditions. No decomposition if used according to regulations.
On contact with steel, at high temperature and/or humidity, and many other metals, it will give off flammable hydrogen gas.
· ***10.2 Chemical stability***
· ***Thermal decomposition / conditions to be avoided:***
No decomposition if used according to specifications.
· ***10.3 Possibility of hazardous reactions***
Reacts violently with water, lyes, oxidants, salts (cyanides, hypochlorites) and amines.
Risk of explosion/exothermic reaction with:

Potassium permanganate, silicon compounds, alkaline hydroxides, phosphorus oxides, bismuthic acid, strong solutions of alkaline hydroxides, perchloric acid, nitrogen oxides.
Danger of ignition or formation of combustible gases or vapours with:
Metals, Alkali metals, Fluorine, halogen halides, chlorosulphonic acid, chromium(VI)oxide, oleum/ sulphuric acid, perchromates, nitric acid, sulphuric acid, silver salt, perchlorates, nitrogen dioxide.
Possible violent reactions with:

Oxidants, acid anhydrides, acid halides.
· ***10.4 Conditions to avoid*** Heat, flame and sparks
· ***10.5 Incompatible materials:***
- Attacks silica, silicates and in particular glass.

- Not suitable for glass containers, cement, certain metals, materials containing silica, ceramics, natural rubber, leather and many organic polymers.
· ***10.6 Hazardous decomposition products:***
Fire may cause fumes of:

- Hydrogen fluoride.
- Nitrogen oxides.

## SECTION 11: Toxicological information

· ***11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008***
· ***Acute toxicity*** Fatal in contact with skin.
· ***LD/LC50 values relevant for classification:***

**7664-39-3 hydrogen fluoride**
Oral LD50 1,276 mg/kg (rat)
· ***Skin corrosion/irritation*** Causes severe skin burns and eye damage.

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· ***Serious eye damage/irritation*** Causes serious eye damage.
· ***11.2 Information on other hazards***
· ***Endocrine disrupting properties***
None of the ingredients is listed.

## SECTION 12: Ecological information

· ***12.1 Toxicity***
· ***Aquatic toxicity:***
Toxicity to fish
LC50 - Oncorhynchus mykiss (rainbow trout) - 51 mg/L - 24 h
NOEC - Onchoryhnchus mykiss - 4 mg/L - 72 h
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (large sea flea) - 10.5 mg/L - 24 h
NOEC - Daphnia magna (large sea flea) - 8.9 mg/L - 7h
Toxicity to algae
ErC50 static test - Desmodesmus subspicatus (green algae) - 43 mg/L - 24 h
· ***12.2 Persistence and degradability*** No further relevant information available.
· ***12.3 Bioaccumulative potential*** No further relevant information available.
· ***12.4 Mobility in soil*** No further relevant information available.
· ***12.5 Results of PBT and vPvB assessment***
· ***PBT:*** Not applicable.
· ***vPvB:*** Not applicable.
· ***12.6 Endocrine disrupting properties***
The product does not contain substances with endocrine disrupting properties.
· ***12.7 Other adverse effects***
· ***Additional ecological information:***
· ***General notes:***
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even small quantities leak into the ground.
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

## SECTION 13: Disposal considerations

· ***13.1 Waste treatment methods***
· ***Recommendation***
Must be specially treated adhering to official regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· ***Uncleaned packaging:***
· ***Recommendation:***
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
· ***Recommended cleansing agents:*** Water, if necessary together with cleansing agents.

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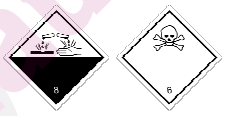
## SECTION 14: Transport information

· ***14.1 UN number or ID number***
· ***ADR, IMDG, IATA*** UN1790
· ***14.2 UN proper shipping name***
· ***ADR*** 1790 HYDROFLUORIC ACID
· ***IMDG, IATA*** HYDROFLUORIC ACID
· ***14.3 Transport hazard class(es)***

· ***ADR***



· ***Class*** 8 Corrosive substances.
· ***Label*** 8+6.1

· ***IMDG***

· ***Class*** 8 Corrosive substances.
· ***Label*** 8/6.1

· ***IATA***

· ***Class*** 8 Corrosive substances.
· ***Label*** 8 (6.1)
· ***14.4 Packing group***
· ***ADR, IMDG, IATA*** II
· ***14.5 Environmental hazards:***
· ***Marine pollutant:*** No
· ***14.6 Special precautions for user*** Warning: Corrosive substances.
· ***Hazard identification number (Kemler code):*** 86
· ***EMS Number:*** F-A,S-B
· ***Segregation groups*** (SGG1) Acids
· ***Stowage Category*** D
· ***Stowage Code*** SW1 Protected from sources of heat.
SW2 Clear of living quarters.
· ***Handling Code*** H2 Keep as cool as reasonably practicable
· ***14.7 Maritime transport in bulk according to IMO instruments*** Not applicable.

· ***Transport/Additional information:***

· ***ADR***
· ***Limited quantities (LQ)*** 1L
· ***Transport category*** 2
· ***Tunnel restriction code*** E

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· ***UN "Model Regulation":*** UN 1790 HYDROFLUORIC ACID, 8 (6.1), II

## SECTION 15: Regulatory information

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

· ***Directive 2012/18/EU***
· ***Named dangerous substances - ANNEX I*** N/A
· ***Seveso category*** H1 ACUTE TOXIC
· ***Qualifying quantity (tonnes) for the application of lower-tier requirements*** 5 t
· ***Qualifying quantity (tonnes) for the application of upper-tier requirements*** 20 t
· ***15.2 Chemical safety assessment:*** A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· ***Relevant phrases***
H300 Fatal if swallowed.
H310 Fatal in contact with skin.
H314 Causes severe skin burns and eye damage.
H330 Fatal if inhaled.

· ***Department issuing SDS:*** Product Safety Department
· ***Contact:*** msds@scharlab.com
· ***Abbreviations and acronyms:***
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord relatif au transport international 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 Harmonised 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 (division of the American Chemical Society)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 2: Acute toxicity – Category 2
Acute Tox. 1: Acute toxicity – Category 1
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1