

Safety data sheet
according to 1907/2006/EC, Article 31 (REACH)

Printing date 31.07.2018

Revision: 08.06.2018

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 as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

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• **Further information obtainable from:** technical department

1.4 Emergency telephone number:

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**

GHS06 skull and crossbones

Acute Tox. 1 H310 Fatal in contact with skin.

Acute Tox. 2 H330 Fatal if inhaled.



GHS05 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 CLP regulation.

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• **Hazard pictograms**



GHS05 GHS06

• **Signal word** Danger

• **Hazard-determining components of labelling:**

hydrogen fluoride

• **Hazard statements**

H310+H330 Fatal in contact with skin or if inhaled.

H314 Causes severe skin burns and eye damage.

• **Precautionary statements**

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.

P320 Specific treatment is urgent (see on this label).

P361+P364 Take off immediately all contaminated clothing and wash it before reuse.

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 Chemical characterisation: Mixtures**

• **Description:** Aqueous solution

• **Dangerous components:**

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

Separate casualty from the danger zone. Place the affected in the most comfortable position and protéjasele cold.

If the affected having trouble breathing again, let oxygen through a face mask

As in the case of contact with skin, it can be administered orally 4 Effervescent tablets calcium (400 mg. Of calcium per tablet) dissolved in water. This administration is repeated every 2 hours until hospital admission.

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In case of not administering calcium milk.

It is almost impossible for anyone conscious HF inhale enough to seriously damaged, as it is too spicy and annoying to inhale voluntarily.

Prolonged and repeated exposures low gas concentrations can cause nasal congestion, nosebleeds and bronchitis

Causes burns in the respiratory tract. It can cause inflammation in the upper respiratory tract, lungs, congestion, pulmonary edema, fever and cyanosis, which may not appear until 12/24 h. after exposure can 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 with liquid causes skin burns immediately intensify over time and may vary depending on the contact time and speed of treatment, erythema and vesicles evolving burns with necrosis and ulcerations.

Dilute solutions can also cause burns, difficult to notice at first. Fluoride ions penetrate rapidly through the skin and tissue necrosis resulting in the soft tissues and bone decalcification. It can be absorbed through the skin in toxic quantities.

Unlike other acid neutralizing this is a process that can take several days

Immediately remove contaminated clothing, wash immediately with plenty of water for at least 5 minutes, then apply to the affected area gel 2.5% Calcium Gluconate massaging (rubbing) with him until the pain go away and for 15 minutes.

Eventually put a dressing or bandage soaked in a solution of Calcium Gluconate 10%. In case of not administering calcium milk

If not available Calcium Gluconate gel, water washing should be performed for 15 minutes.

If it is greater burns skin surface of the hand (approx. 150 cm²) are additionally administered orally 4 Effervescent tablets calcium (400 mg. Of calcium per tablet) dissolved in water. This administration is repeated every 2 hours until hospital admission.

If the burns are extensive, take a dip in solution comprehensive 1-5% Calcium Gluconate

Immediately wash with water and soap and rinse thoroughly.

• After eye contact:

Call a doctor immediately.

Flush eyes immediately with water keeping the eyelids for 10-15 minutes. Then irrigate with normal saline isotonic solution for 5 minutes.

Eye contact causes painful burns that can cause permanent visual impairment or blindness.

Rinse opened eye for several minutes under running water. Then consult a doctor.

• After swallowing:

Administered orally 6 effervescent calcium tablets dissolved in water. In case of not administering calcium milk.

It can cause necrosis mouth, esophagus and stomach, may cause nausea, vomiting, diarrhea 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 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.

- Should be available Calcium Gluconate gel 2.5%.

- Should be available calcium tablets (400mg calcium per tablet).

- Milk should be available in case it is not possible to have the above mentioned

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It is highly recommended that near jobs there emergency showers and eyewash.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** No restriction in case of fire nearby.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
In the case of action of heat due to a fire in the vicinity, there is a danger of bursting. containers should move to an area that offers security, provided that this operation can be performed safely.

Cooling with water spray containers exposed to fire. When opening the containers ensure nonexistence of sparks or ignition means in the vicinity.
Release of highly toxic and corrosive gases hydrofluoric acid. Fire may cause evolution of: Hydrogen fluoride and nitrogen oxides
- **5.3 Advice for firefighters**
- **Protective equipment:**
In the work of extinction it is necessary to provide respiratory protection and full chemical protective clothing.
Stay in danger area only with artificial systems and independent breathing apparatus.
Protection of the skin, keep a safety distance and wear suitable 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**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
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:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to item 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.
Only handle and refill product in closed systems.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
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- **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.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **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

- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

For handling the product should be mandatory use of personal protective equipment.

Local exhaust recommended to keep dust emissions or vapors below the lowest permissible exposure level. Regular checks of working environment.

It is advisable the existence of protective screens splash in points using the product.

Moving 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.

The shower areas and toilets should be separate from the 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.

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 under the legislation concerning exposure limits, wear respiratory protection appropriate respiratory equipment, depending on the level of vapors:

- They must be PPE category 3.
- Facial mask with replaceable filters E1 - E2.
- Mask hood with suitable plastic visors and replacement filters of the above type.
- Insulating equipment well with air line or self-employed.

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.

- **Protection of hands:**



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.

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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 protection:**

Face shield or chemical goggles, biker type or diver, tight fitting with plastic glasses or a face shield.

It is generally known that contact lenses should not be used when working with chemicals because they 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 a suitable material (for example Viton or neoprene), normal protective clothing (diving) with long sleeves and chemical protective boots (for example Viton or neoprene).

To work with possible contact with the product must be prolonged wear PPE category 3 type 3 (liquid tightness) of suitable material (composite, Viton, PVC).

For emergencies should wear a protective suit category 3 type 1 suitable material (composite, Viton, PVC) of the same materials, with SCBA

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:

Fluid

Colour:

Colourless

- **Odour:**

Acrid

- **Odour threshold:**

Not determined.

- **pH-value:**

Not determined.

- **Change in condition**

Melting point/freezing point:

Undetermined.

Initial boiling point and boiling range: 19 °C

- **Flash point:**

Not applicable.

- **Flammability (solid, gas):**

Not applicable.

- **Decomposition temperature:**

Not determined.

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- **Auto-ignition temperature:** Product is not selfigniting.
- **Explosive properties:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower:** Not determined.
 - Upper:** Not determined.
- **Vapour pressure at 20 °C:** 40 hPa
- **Density at 20 °C:** 1.16 g/cm³
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with water:** Fully miscible.
- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **Solvent content:**
 - Organic solvents:** 0.0 %
 - Water:** 52.0 %
- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
Stable under normal conditions. If used according to the regulation no decomposition occurs. In contact with steel at elevated temperature and / or moisture, and many other metals, it discharges 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, alkalis, oxidizers, salts (cyanides, hypochlorites) and amines
Risk of explosion / exothermic reaction with:

Potassium permanganate, silicon compounds, alkali hydroxides, phosphorus oxides, bismúctico acid, strong alkalis, perchloric acid, nitrogen oxides.
Risk of ignition or formation of inflammable gases or vapors with:
Metals, alkali metals, Fluorine, halogen-halogen, chlorosulfonic acid, chromium (VI) oxide, oleum / sulfuric acid, percromatos, nitric acid, sulfuric acid, silver salt, perchlorates, nitrogen dioxide
Posibles reacciones violentas con:

Oxidantes, anhídridos de ácido, halogenuros de ácido.
- **10.4 Conditions to avoid** Heat, open flames and sparks
- **10.5 Incompatible materials:**
 - Attacks silica, silicates and especially to glass.
 - There are suitable glass, cement, certain metals, silica-containing materials, ceramics, natural rubber, leather and many organic polymers.
- **10.6 Hazardous decomposition products:**
Fire may cause evolution of:
 - Hydrogen fluoride.

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- Nitrogen oxides.

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SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Fatal in contact with skin or if inhaled.
- **LD/LC50 values relevant for classification:**
7664-39-3 hydrogen fluoride
Oral LD50 1,276 mg/kg (rat)
- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity 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.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **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.
- **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.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

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- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- **14.1 UN-Number** UN1790
- **ADR, IMDG, IATA**
- **14.2 UN proper shipping name** 1790 HYDROFLUORIC ACID
- **ADR** HYDROFLUORIC ACID
- **IMDG, IATA**
- **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** II
- **ADR, IMDG, IATA**
- **14.5 Environmental hazards:**
- **Marine pollutant:** No
- **14.6 Special precautions for user** Warning: Corrosive substances.
- **Danger code (Kemler):** 86
- **EMS Number:** F-A,S-B
- **Segregation groups** 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 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

- **Transport/Additional information:**

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

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UN 1790 HYDROFLUORIC ACID, 8 (6.1), II (Contd. of page 9)

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** None of the ingredients is listed.
- **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
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **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.

· **Classification according to Regulation (EC) No 1272/2008**

The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

· **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 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 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)

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