

## Fluorvätesyra/Hydrogenfluorid/Hydrogen fluoride 1-5%

Version 1.0

Effective date: 01-03-2022

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY / UNDERTAKING

#### 1.1 Product identifier.

**Trade name:** Fluorvätesyra/Hydrogenfluorid/Hydrogen fluoride 1-5% .

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

**Product use:** Professional use.  
Electronics chemical.

#### 1.3 Details of the supplier of the safety data sheet

**Company:** Sunchem AB  
Box 69  
S-433 21 Partille  
Sverige  
T +46 31 44 73 10  
F +46 31 44 95 81  
www.sunchem.se

**Contact:** info@sunco.se

#### 1.4 Emergency telephone number:

Use your national or local emergency number.  
United Kingdom: Contact The National Poisons Information Service (dial 111, 24 h service).

### SECTION 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture according to CLP No. 1272/2008/GB CLP.

Acute Tox. 3; H301, Acute Tox. 1; H310, Skin Corr. 1B; H314, Eye Dam. 1; H318, Acute Tox. 3; H331.

#### 2.2 Label elements CLP No. 1272/2008/GB CLP.

#### Hazard pictograms:



#### Signal word:

Danger

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**Contains:** Hydrogen fluoride.**Hazard statements:**

H301+H331 Toxic if swallowed or if inhaled.

H310 Fatal in contact with skin.

H314 Causes severe skin burns and eye damage.

**Precautionary statements:**

General:

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Prevention:

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection. P284

Wear respiratory protection.

Response:

P301 + 310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P301 + 330 + 331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + 361 + 353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Specific rinsing fluid required.

P304 + 340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage:

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Disposal:

P501 Dispose of contents/ container in accordance with national regulations.

**Additional labelling:**

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**2.3 Other hazards.**

This mixture does not meet the criteria for PBT or vPvB according to regulation 1907/2006 REACH, annex XIII.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substance:**

The product is a mixture.

**3.2 Mixture:**

CAS/EC-no.	REACH-no.	Name	Content %	Classification CLP
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7664-39-3 / 231-634-8	01- 211945886033	Hydrogen fluoride*	1-5	Acute Tox. 2; H302, Acute Tox. 1; H310, Skin Corr. 1A; H314, Acute Tox. 2; H330.
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\*Specific concentration limits Hydrogen fluoride – CAS 7664-39-3: Skin Corr. 1A; H314: C ≥ 7 %.

See full text of H-phrases in section 16. Occupational limits, where applicable, are listed in section 8.

**SECTION 4. FIRST AID MEASURES****4.1 Description of first aid measures**

- General information:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor if you feel unwell.
- Inhalation:** Call a Poison Centre or doctor if you feel unwell. Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Skin contact:** Wash with plenty of soap and water. Specific rinsing fluid required: Apply skin with 2.5% calcium gluconate gel on the areas that have been in contact with the product. Massage the gel until the pain disappears and leave the gel on for another 15 minutes. Contaminated clothing must be removed immediately. Contaminated clothing must be washed before reuse. Contact a doctor immediately.
- Eye contact:** Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Check for and remove any contact lenses. Get medical attention immediately. Show this safety data sheet.
- Ingestion:** Fatal if swallowed. Rinse nose, mouth and throat with water. Do NOT induce vomiting! Contact a doctor immediately. After swallowing can milk or calcium gluconate be given by mouth. Give plenty of water to drink. Immediate medical attention or transport to hospital.

**4.2 Most important symptoms and effects, both acute and delayed:**

- Symptoms/effects: Symptoms of intoxication may occur several hours after exposure.
- Symptoms/effects after inhalation: toxic if inhaled.
- Symptoms/effects after skin contact: Fatal in contact with skin. Causes severe skin burns.
- Symptoms/effects after eye contact: Causes severe skin burns and eye damage.
- Symptoms/effects after swallowing: Toxic if swallowed. Ingestion of even a small amount of this substance involves a serious health risk.

**4.3 Indication of any immediate medical attention and special treatment needed:**

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Treat symptomatically.

### SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing media:** Use an extinguishing agent suitable for the surrounding fire.

**Extinguishing media which must not be used for safety reasons:**

Water jets should not be used, since they can spread the fire.

**5.2 Special hazards arising from the substance or mixture:**

Not flammable.

Emits toxic and corrosive gases. Hydrogen fluoride (HF).

**5.3 Advice for firefighters:**

Do not enter fire area without proper protective equipment, including respiratory protection. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions, protective equipment and emergency procedures:**

See section 8 for recommendations on the use of personal protective equipment. Avoid contact with skin, eyes and clothes. Keep unprotected persons away. Ensure adequate ventilation, especially in confined areas. Do not breathe vapor or mist.

**6.2 Environmental precautions:**

Prevent undiluted entry to sewers and public waters.

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

Small spills: wipe up with absorbent material (e.g. cloth, fleece).

Large spills: Use sand, earth, vermiculite, diatomaceous earth to contain and collect non-combustible absorbent materials and place in suitable closed container for disposal, according to local regulations. Never return spills to original containers for re-use. Then rinse the spillage site with plenty of water. Dispose of in accordance with section 13.

**6.4 Reference to other sections:**

See section 8 for personal protection.

See section 13 for disposal.

### SECTION 7. HANDLING AND STORAGE

**7.1 Precautions for safe handling:**

Store as a toxic and corrosive product.

See section 8 for recommendations on the use of personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapor/mist. Provide adequate ventilation of the work area. Use only

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outdoors or in a well-ventilated area. Never pour water into acid. Handle and open container carefully. Avoid spills. Avoid contact during pregnancy or breastfeeding. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Never pour water on or in the product, but pour the product into water. For dissolution or dilution, add small amounts of water at a time. In case of accident, always have 2.5% calcium gluconate gel on hand (prescription).

**Hygiene measures:**

Do not eat, drink or smoke when using this product. Wash face, hands and any exposed skin thoroughly after handling.

**7.2 Conditions for safe storage, including any incompatibilities:**

Store in original container protected from direct sunlight in a dry, cool and well-ventilated area. Keep container tightly closed. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Protect from direct sunlight.

**7.3 Specific end use(s):** See section 1.2.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**8.1 Control parameters**
**Occupational exposure limits EH40:**

CAS-no:	Name:	Limits 8 h:	Limits 15 min.:	Ref./comments:
7664-39-3	Hydrogen fluoride (as F)	1.5 mg/m 1.8 ppm	2.5 mg/m 3 ppm	EH40/-

**DNEL / PNEC:**

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**8.2 Exposure controls.**
**Appropriate technical measures:**

Airborne concentrations must be kept as low as possible. Use for example an exhaust system if the normal air flow in the work room is not sufficient.

**General information:**

Smoking, consumption of food or liquid, and storage of tobacco, food or liquid, are not allowed in the workroom. Always wash hands, forearms and face. Make sure that eyewash and emergency showers are clearly marked and available. Avoid contact with skin and eyes. Avoid breathing mist/vapors. In case of accident, always have 2.5% calcium gluconate gel on hand (prescription).

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### Personal protective equipment:

Only CE-marked personal protection equipment should be used.

### Respiratory protection:

If risk of inhalation, use respiratory protection with filter E – EN 149.

### Hand protection:

If there is a risk of skin contact, wear suitable protective gloves. Latex. Neoprene rubber. Breakthrough time: 6 (≥480 minutes). Thickness: >0.4 mm. STANDARD EN 374.

### Eye protection:

Tightly fitting safety goggles. EN 166.

### Body protection:

Impervious working clothes.

### Measures to avoid environmental exposure:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties.

Physical state:	Liquid
Colour:	Colorless
Odour:	Sharp
Melting point/freezing point:	~-35°C
Boiling point:	105°C

Flammability:	Water 100 g/L - 20°C
Lower and upper explosion limit:	Not relevant/no data
Flash point:	Not relevant/no data
Auto-ignition temperature: Decomposition temperature:	1.054 g/cm <sup>3</sup> - 20°C
pH:	N
Dynamic viscosity:	o
Solubility:	t
Partition coefficient n-octanol/water:	r
Vapour pressure:	e
Density and/or relative density:	l
Relative vapour density:	e
Particle characteristics:	v

### 9.2 Other information:

Molecular weight: 20.01 g / mol.

No hazard

No hazard

Not relevant/no data

Not relevant/no data

Not relevant/no data

Not relevant/no data

Not relevant/no data

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Not relevant/no data

Explosive properties: The product is not explosive.

**SECTION 10. STABILITY AND REACTIVITY**

- 10.1 Reactivity:** No dangerous reaction known under conditions of normal use and storage. Thermal decomposition produces: Corrosive vapors.
- 10.2 Chemical stability:** Stable under normal storage conditions.
- 10.3 Possibility of hazardous reactions:**  
None known if used and storage as recommended.  
Never pour water on or in the product, but pour the product into water.
- 10.4 Conditions to avoid:** Stable under normal temperature conditions and recommended use. See section 7.
- 10.5 Incompatible materials:** Strong acids. Strong oxidizing agents. Amin. Alkaloids. Upon contact with metals, hydrogen gas is formed which, together with air, can form an explosive mixture.
- 10.6 Hazardous decomposition products:**  
Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition produces:  
Corrosive vapors.

**SECTION 11. TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects.**

- Acute toxicity:** Toxic if swallowed or if inhaled.  
Fatal in contact with skin.
- Product ATE:  
Oral: ~50-500 mg/kg  
Dermal: ~10 mg/kg  
Inhalation: ~2-20 mg/L/4 h.
- Hydrogen fluoride - CAS 7664-39-3:  
Oral – LD50 – Rat: 33 mg/kg  
Inhalation – LC50 – Rat: 1,05 mg/L

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**Skin corrosion/irritation:** Causes severe skin burns.

**Serious eye damage/irritation:** Causes eye damage.

**Respiratory or skin sensitization:** Not classified.

**Germ cell mutagenicity:** Not classified.

**Carcinogenicity:** Not classified.

**Reproductive toxicity:** Not classified.

**Specific target organ toxicity - single exposure:** Not classified.

**Specific target organ toxicity – repeated exposure:** Not classified.

**Aspiration hazard:** Not classified.

### 11.2 Information on other hazards:

#### Endocrine disrupting properties:

The product/substance has no endocrine disrupting properties.

#### Additional information:

Absorbed fluoride can cause metabolic imbalances as well as heartbeat problems, discomfort, dizziness, vomiting and seizures. May have skeletal effects and lead to fluorosis.

## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity:

Not classified harmful to the environment.

Large amounts of the product may affect the acidity (pH-factor) in water with possible risk of harmful effects to aquatic organisms.

Hydrogen fluoride - CAS 7664-39-3:  
 Fish – LC50 – 96 t.: 441 mg/l  
 Daphnia – EC50 – 48 t.: 10-100 mg/l  
 Algae – IC50: 2 mg/l

### 12.2 Persistence and degradability:

Hydrogen fluoride - CAS 7664-39-3:  
 Readily biodegradable .



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**12.3 Bioaccumulative potential:**

Hydrogen fluoride - CAS 7664-39-3:  
Fluoride accumulates in the endo- and exoskeleton of aquatic organisms.  
BCF: 150.  
Log Pow: 0,23.

**12.4 Mobility in soil:**

The product contains substances that are water-soluble and can be spread in the aquatic environment.

**12.5 Result of PBT and vPvB assessment:**

This mixture does not meet the criteria for PBT or vPvB according to regulation 1907/2006 REACH, annex XIII.

**12.6 Endocrine disrupting properties:**

The product/substance has no endocrine disrupting properties.

**12.7 Other adverse effects:**

None known.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods:**

Avoid release to the environment. This product is hazardous waste.  
Dispose in a safe manner in accordance with local/national regulations. The coding of a waste stream is based on the application of the product by the consumer – end-user.  
Option:

**EWC-Code:**

06 07 04\* solutions and acids, for example contact acid.  
16 05 07\* discarded inorganic chemicals consisting of or containing dangerous substances.

**Contaminated packing:**

Properly cleaned container is disposed of according to packaging material, otherwise:  
15 01 10\* packaging containing residues of or contaminated by dangerous substances.

**SECTION 14. TRANSPORT INFORMATION**

This product is classified as dangerous to transport.

	<b>ADR/RID</b>	<b>IMDG/IMO</b>
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<b>14.1 UN number</b>	1790	1790
<b>14.2 UN proper shipping name</b>	HYDROFLUORIC ACID	HYDROFLUORIC ACID
<b>14.3 Transport hazard class(es)</b>	6.1	8 (6.1)
<b>14.4 Packing group</b>	II	II
<b>14.5 Environmental hazards - MP</b>	No F-A, S-B	NO F-A, S-B
<b>Other informations</b>	LQ: 1 L. Tunnel: E	LQ: 1 L. Tunnel: E

**14.6 Special precautions for user:**

Not relevant.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:**

Not relevant.

**SECTION 15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Pressure Equipment (Amendment) Regulations 2011. Chemicals (Hazard Information and Packaging for Supply) Regulations 2009. Control of Substances Hazardous to Health Regulations 2002 (as amended). Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997. Reporting of Injuries, Personal Protective Equipment Regulations 2002. Personal Protective Equipment at Work Regulations 1992. Hazardous Waste (England and Wales) Regulations 2005(as amended). EC regulation 1907/2006 (REACH) Directive 2000/532/EC. EU No. 2020/878. CLP No. 1272/2008. GB CLP.

**Additional information:**

People under the age of 18 must not be exposed to this product. Council Directive 94/33/EC.

**15.2 Chemical safety assessment:**

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

**SECTION 16. OTHER INFORMATION**

Full text of H-phrases as mentioned in section 2/3:

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H300 Fatal if swallowed.

H301 Toxic 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.

### **Additional information:**

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

**Validated by:** SRS

[www.msds-eu.com](http://www.msds-eu.com)

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