



Chemifloc Ltd.

SAFETY DATA SHEET Fluorosilicic Acid 10.9%

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II

1: Identification of the substance/preparation and of the company/undertaking

Identification of the substance or preparation

Product Name: Fluorosilicic acid, Hydrofluosilicic acid

Chemical Name: Hexafluorosilicic acid

Use of the preparation:

Used as a chemical for the treatment of drinking water, has received appropriate approval by the European Committee for Standardisation.

Company/Undertaking identification

Supplier: Chemifloc Ltd
Smithstown, Shannon,
Co. Clare,
Rep. of Ireland.
Tel: 00353 61 708699
Fax: 00353 61 708698
e-mail: info@chemifloc.ie

Emergency Telephone Number: 00353 61 708699

2: Hazards Identification

EC Classification according to Directive 67/548/CEE, Annex I C; R34,

Corrosive liquid

Physicochemical hazards

By heating the acid, corrosive and toxic fumes are given off. It reacts with steel, nickel, aluminium and also with many other metals giving off flammable gaseous hydrogen. Formation of Hydrofluoric acid with concentrated acids. It reacts intensely, exothermic, with the alkalis.

Environmental hazards

Toxic effect in fish and plankton, on fixed organisms also due to a variation of the pH.

Hazards to human health

Toxic by inhalation, by ingestion and in contact with the skin. It provokes serious burns.

The absorption of Fluoride ions in the blood, by dust or vapors inhalation, by ingestion or by cutaneous absorption, may reduce the calcium levels in serum, causing possible hypocalcaemia, also those of magnesium causing possible hypomagnesia. It may as well provoke the inhibition of vital enzymes.

Also, it can cause dangerous and important disturbances in metabolism and renal and hepatic functions. In cases of prolonged and repeated exposures, the absorption of Fluoride ions in the blood may produce fluorosis (calcium fixing in the bones by fluorides).

The symptoms of overexposure to fluorides can include salivation, nausea, vomiting, abdominal pain, diarrheas, fever or hard breathing. The symptoms of serious poisoning include hard breathing, pulmonary congestion, muscular spasms, convulsions and collapse.

3: Composition/Information on Ingredients

Ingredient Name	CAS Number	%	EC Number	Classification	Risk Phrases
Fluorosilicic Acid	16961-83-4	10.9	241-034-8	C	R34
Water	7732-18-5	To 100%	231-791-2	Not classified	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.

4: First Aid Measures

Ingestion:

If conscious, give the exposed person large quantities of water. Administer calcium gluconate solution or milk. Seek immediate medical attention.

Eye Contact:

Immediately irrigate with copious amounts of water, while holding eyelids open for at least 15 minutes. Seek immediate medical attention.

Skin:

Wash affected area with copious amounts of water for at least 15 minutes. Apply calcium gluconate gel to the affected area, rub in until locally free of pain and then continue for a further 15 minutes. Apply a dressing soaked in 20% (m/m) calcium gluconate solution. Seek immediate medical attention.

Inhalation:

Remove affected person from exposure to a well ventilated area. Keep warm and at rest. Administer orally six effervescent calcium pills (400 mg calcium per pill) dissolved in water. Seek immediate medical attention.

Further Medical Advice

Following severe exposure the patient should be kept under medical attention for 48 hours as delayed pulmonary oedema may develop.

5: Fire-Fighting Measures

Flammability:

Fluorosilicic Acid is non flammable and does not support combustion.

Fire Fighting Protective Equipment:

Wear NIOSH approved self-contained acid suit and/or approved respirator.

Fire Extinguishing Data:

There are no restrictions on extinguishing media in fire situations.

Unusual Fire and Explosion Hazards:

Reacts with many metals to produce flammable and explosive hydrogen gas. Keep containers cool with water, using spray nozzles, as decomposition will occur above 105oC and produce toxic and corrosive fumes of fluoride.

6: Accidental, Release Measures

Small Spillage :

Wash away with large quantities of water.

Large Spillage :

If fumes are evolved wear respiratory protection. Bund large spillages with sand, earth etc. and pump away, neutralise with soda ash then dilute with water (spray) and flush away with large amounts of water after neutralisation. Inform the local water authority if product has entered public drains or waterways.

Personal Precautions : Wear full protective clothing.

Neutralising Chemicals : Hydrated Lime or Soda Ash.

10: Stability and Reactivity

Stability:

Stable in normal conditions.

Materials to avoid:

Strong oxidising agents, bases and water. Glass, stoneware.

Hazardous decomposition products:

Silicon tetrafluoride and corrosive and toxic hydrogen fluoride. Carbon monoxide, Carbon dioxide, Silicon oxide.

11: Toxicological Information

Acute:

Fluorosilicic Acid is an acute irritant to the skin, eyes and mucous membranes and lungs. The acid and its vapour are moderately toxic. Fluoride poisoning effects may be delayed up to 24 hours, depending upon the fluoride ion concentration.

Ingestion:

Severe irritant. Ingestion may cause burns of the gastrointestinal tract leading to vomiting, acidosis, bloody diarrhoea, wheezing, laryngitis, shortness of breath, headache and shock. Circulatory system may be affected with symptoms of shock, rapid, weak or no pulse, severe hypotension and pulmonary changes with dyspnea, and emphysema. In some cases, necrosis and haemorrhage of the gastrointestinal tract, liver damage and death may occur. Scarring of the gastrointestinal tract may occur in non-fatal cases.

Eye:

Severe irritant. Contact may result in lacrimation, irritation, pain, redness and conjunctivitis. Prolonged contact - corneal burns and possible permanent damage.

Skin:

Severe irritant. Prolonged contact may result in irritation, itching and possible skin rash.

Inhalation ;

Severe irritant to the respiratory tract. Over exposure at high levels may result in mucous membrane irritation of the nose and throat with coughing, shortness of breath and pulmonary oedema.

Chronic:

Chronic exposure to fluoride present in Fluorosilicic Acid may lead to sclerosis of the bones, calcification of ligaments, loss of weight, anorexia and teeth disorders. At low levels, chronic exposure can lead to nose bleeds and sinus problems.

Health Information :

OSHA Permissible Exposure Limit (PEP): 2.5 mg/m³ (as F) ACGIH Threshold Limit Value (TLV): 2.5 mg/m³ (as F)

Toxicity Data:

LD50 200mg/kg (Oral-Guinea Pig)

12: Ecological Information

Aquatic Environment:

Accidental spillage would suddenly reduce pH level due to the product's acidic properties. Local disastrous effects are possible. Do not discharge into the natural environment. Neutralise all waste products and follow current guidelines and legislation.

13: Disposal Considerations

Neutralise with Lime and landfill in accordance with local regulations.

14: Transport Information

Proper Shipping Name: FLUOROSILICIC ACID
UN Number: 1778
RID/ADR: Class 8
Hazard ID Number: 80
Classification Code: C1
Packing Group: PG II

15: Regulatory Information

Fluorosilicic Acid Solution is classed as **Corrosive** for supply, and packaging will carry the following information:

EU Regulations:

Hazard Symbol or symbols: C : Corrosive

Risk Phrase: R 34: Causes severe burns.

Safety Phrases: S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical treatment
S 27: Take off immediately all contaminated clothing
S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Contains EINECS number: 241-034-8

16: Other Information

References: Fluorosilicic Acid solutions are used as chemicals for the treatment of drinking water, as approved by the European Committee for Standardisation under EN 12175:2006. The Transport and Regulatory Information given are in accordance with EN 12175:2006.

History: This data sheet was prepared in accordance with EC Regulation No. 1907/2006 concerning REACH.
This version replaces Version 3, Jan 2009.

Date of issue: 27-10-2009

Revision: 4.

Notice to reader

To the best of our knowledge, the information provided in this Safety Data Sheet is accurate as at the date of its issue. The information it contains is being given for safety guidance purposes and relates only to the specific material and uses described in it. This information does not necessarily apply to that material when combined with other material(s) or when used otherwise than as described herein. Final determination of the suitability of any material is the sole responsibility of the user. All materials may represent unknown hazards and should be used with caution. Chemifloc Ltd disclaims any liability for loss or damage resulting from the use of any data, information or recommendations set out in this Safety Data Sheet.