



Chemifloc Ltd.

SAFETY DATA SHEET Fluorosilicic Acid 10.9%

Conforms to Regulation (EC) No.1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

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

Identification of the substance or mixture

Product Name:	Fluorosilicic Acid 10.9%
Chemical Name:	Hexafluorosilicic acid
Registration Number:	01-2119488906-19
Synonyms:	Hydrofluorosilicic Acid, Fluosilicic Acid
Date of first issue:	17 January 2011
Version number	05
Revision date:	02-04-2021
Supersedes date:	24-03-2016

Relevant identified uses of the substance or mixture and uses advised against:

Identified uses	Use in the treatment of raw water in the supply of either potable water or industrial process water
Uses advised against	None

Details of the supplier of the safety data sheet

Manufacturer:	Chemifloc Ltd Smithstown, Shannon, Co. Clare, Rep. of Ireland. Tel: 00353 61 708699 Fax: 00353 61 708698 e-mail: info@chemifloc.ie
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Emergency Telephone Number: National Poison Information Centre,
00353 1 8379964

Section 2: Hazards Identification

Classification of the substance

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classificatory applies.

Classification according to Regulation (EC) no 1272/2008 as amended

Health hazards

Serious eye damage/eye irritation Category 1B H314 6 Causes severe skin burns and eye damage.

Hazard summary

Physical hazards	Not classified for physical hazards.
Health hazards	Causes burns.
Environmental hazards	Not classified for hazards to the environment.
Specific hazards	Not available
Main symptoms	Not available.

Label elements**Label according to Regulation (EC) No. 1272/2008 as amended**

Contains: Hexafluorosilicic Acid



Signal word	Danger
Hazard statements	H314 - Causes severe skin burns and eye damage.
Precautionary statements	
Prevention	P260 - Do not breathe mist or vapour. P280 - Wear eye/face protection
Response	P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. P310 - Immediately call a POISON CENTER or doctor/physician. P363 - Wash contaminated clothing before reuse. P405 - Store locked up.
Storage	
Disposal	P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.
Supplemental label information.	Not applicable
Other hazards	Not assigned.

Section 3: Composition/Information on Ingredients**Substance****General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Hexafluorosilicic acid	10.9	16961-83-4 241-034-8	01-2119488906-19	-	#
Water	89.1	7732-18-5			

Classification: CLP: Skin Corr. 1B;H314

#: This substance has workplace exposure limit(s).

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

Composition comments The full text for all H-phrases is displayed in section 16.**Section 4: First Aid Measures****General information**

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. No hazards which require special first aid measures.

Description of first aid measures**Inhalation**

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Keep warm and at rest. Administer orally six effervescent calcium pills (400 mg calcium per pill) dissolved in water. Seek immediate medical attention. Call a physician or Poison Control Centre immediately.

Skin contact

Take off immediately all contaminated clothing. For minor skin contact, avoid spreading material on unaffected 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. Call a physician or Poison Control Centre immediately.

Eye contact	Important! Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If possible use lukewarm water. Consult a physician. Continue rinsing eyes during transport to hospital.
Ingestion	If conscious, give the exposed person large quantities of water. Administer calcium gluconate solution or milk. Call a physician or Poison Control Centre immediately. Rinse mouth. Do not induce vomiting.
Most important symptoms and effects, both acute and delayed	Corrosive effects, May cause irreversible eye damage.
Indication of any immediate medical attention and special treatment needed	In case of shortness of breath, give oxygen. Keep victim warm.

Section 5: Firefighting measures

General fire hazards	Non-combustible, substance itself does not burn.
Extinguishing media	
Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing Media	None known.
Special hazards arising from the substance or mixture	The product itself does not burn. Reacts with many metals to produce flammable and explosive hydrogen gas. Keep containers cool with water, using spray nozzles, as decomposition will occur above 105°C and produce toxic and corrosive fumes of fluoride.
Advice for firefighters	
Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective clothing.
Special firefighting procedures	No unusual fire or explosion hazards noted.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Stay upwind.
For emergency responders	Not available.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Methods and material for containment and cleaning up	Should not be released into the environment. Prevent entry into waterways, sewers, basements or confined areas. Large Spills: Dike the spilled material, where this is possible. Soak up with inert absorbent material. Cover with plastic sheet to prevent spreading. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth and place into containers. Sweep up or gather material and place in appropriate container for disposal. Following product recovery, flush area with water. After removal flush contaminated area thoroughly with water. Clean up in accordance with all applicable regulations. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste. After removal flush contaminated area thoroughly with water. This material and its container must be disposed of as hazardous waste. For waste disposal, see Section 13.
Reference to other sections	Not available.

Section 7: Handling and storage

Precautions for safe handling	Avoid contact with eyes. Avoid prolonged exposure. Wash hands thoroughly after handling. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed. Keep only in the original container. Store in corrosive resistant/container with a resistant inner liner. Keep out of the reach of children. Tanks should be vented and fitted with an overflow pipe. Tanks should be banded to contain spillage.. Avoid freezing. Keep away from incompatible materials. Store in a cool, dry, well-ventilated area away from sources of ignition. Do not store in glass or stoneware.
Materials for packaging:	Suitable material: plastic (PE, PP, PVC), fiberglass-reinforced polyester, acid proof or rubber-coated steel.
Materials to avoid:	Bases, non-acid proof metals (for example aluminium, copper and iron), Avoid contact with unalloyed steel or galvanized surfaces.
Other data:	Stable under recommended storage conditions.
Specific end use(s)	The specified uses for this material are shown in section 1 of this document.

Section 8: Exposure controls / personal protection

Control parameters

Occupational exposure limits Ireland

Components	Type	Value	Form
Hexafluorosilicic acid (16961-83-4)	TWA	2.5 mg/m ³	Fluorine as F

Biological limit values No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures Not available.

DNEL

Components	Type	Route	Value	Form
	Industry	Oral	mg/kg bw/day	as F
	Professional	Oral	mg/kg bw/day	as F

PNEC Not available.

Exposure Controls

Appropriate engineering controls Ventilation should be sufficient to effectively remove and prevent build-up of any dusts or fumes that may be generated during handling or thermal processing. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Individual protection measures, such as personal protective equipment.

General information Use personal protective equipment as required. Eye wash fountain is recommended. Keep working clothes separately.
Eye/face protection Wear eye/face protection. (EN166)

Skin protection

- **Hand protection** PVC or other plastic material gloves. (EN374)
 - **Other** Wear suitable protective clothing. (EN13034)
 Chemical resistant apron.

If splashes are likely to occur, wear: Rubber or plastic boots.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

General information (Appearance, odour)

Physical State	Aqueous solution
Colour	Clear
Odour	Not significant

Important health safety and environmental information

pH	<1.0
Melting point/range	-10 °C
Boiling point / range	110°C
Flash point	not applicable, In accordance with column 2 of REACH Annex VII, the study does not need to be conducted., inorganic compound
Flammability (solid, gas)	does not sustain combustion.
Explosive properties	
- Lower explosive limit	not applicable
- Upper explosive limit	
Vapour Pressure	not applicable, In accordance with column 2 of REACH Annex VII, the study does not need to be conducted.
Density	1.09 g/cm ³
Solubility(ies)	
- Water solubility	miscible
Partition coefficient (n-octanol/water)	not applicable, inorganic compound.
Thermal Decomposition	110°C
Other information	Crystallisation Point: -10°C

Section 10: Stability and reactivity

Reactivity	Corrodes base metals .
Chemical stability	Stable under recommended storage conditions. Hexafluorosilicic acid is only stable in an aqueous solution. On evaporation it decomposes to hydrogen fluoride (HF) and silicon tetrafluoride (SiF ₄).
Possibility of hazardous reactions	It produces hydrogen on contact with metals, e.g. steel, nickel and aluminium. It is a strong acid and reacts violently with alkalis. It forms hydrogen fluoride (HF) on contact with concentrated acids. It attacks glass.
Conditions to avoid	Reacts violently with strong alkaline substances. This product may react with reducing agents. Do not mix with other chemicals.
Incompatible materials	Bases, non-acid proof metals (for example aluminium, copper and iron) Avoid contact with unalloyed steel or galvanized surfaces.
Hazardous decomposition products	
Thermal decomposition	110°C.

Section 11: Toxicological information

Information on toxicological effects

Acute toxicity

Hexafluorosilicic acid:

Acute Oral LD50 Guinea pig: 200 mg/kg

Acute Oral LD50 Rat: 430 mg/kgLD50

Irritation and corrosion

Eye May cause irreversible eye damage.

Sensitisation Not sensitizing.

Long term toxicity Not classified.

Carcinogenicity Not classified.

Mutagenicity Not classified.

Reproductive toxicity Not classified.

Teratogenicity Not classified.

Target organ

The mixture is not classified. STOT - repeated exposure

The mixture is not classified. STOT - single exposure

Human experience

Inhalation

Not available.

Skin contact

Symptoms: Effects of repeated or prolonged skin contacts may include:, dry skin, irritation.

Eye contact

Symptoms: Contact with eyes causes a smarting pain and a flood of tears., Risk of serious irritation to eyes.

Ingestion

Symptoms: Ingestion may provoke the following symptoms, Nausea, Vomiting, irritation of mouth, oesophagus and stomach

Section 12: Ecological information

Toxicity

Remarks: No toxicity data noted for the ingredient(s).

Persistence and degradability

No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient: n-octanol/water: not applicable, inorganic compound

Mobility in soil

Mobility water solubility ó soluble

Results of PBT and vPvB assessment

This mixture is not considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture is not considered to be very persistent nor very bioaccumulating (vPvB).

Other adverse effects

May lower the pH of water and thus be harmful to aquatic organisms.

Section 13: Disposal considerations

Waste treatment methods

Product Classified as hazardous waste. Must be disposed of in accordance with local and national regulations.
Thoroughly cleaned packaging material may be recycled.

Contaminated packaging Classified as hazardous waste. Must be disposed of in accordance with local and national regulations.

Section 14: Transport information

ADR/RID:

UN Number: 1778
Proper Shipping Name: FLUOROSILICIC ACID
Transport hazard class(es) 8
Subsidiary class(es) 8
Packing group II
Environmental hazards No
Labels required 8
Special precautions for user Not available.

IATA

UN Number: 1778
UN Proper Shipping Name: FLUOROSILICIC ACID
Transport hazard class(es) 8
Subsidiary class(es) 8
Packing group II
Environmental hazards No
Special precautions for user Not available.

IMDG

UN number 1778
UN proper shipping name FLUOROSILICIC ACID
Transport hazard class(es) 8
Subsidiary class(es) 8
Packing group II
Marine pollutant No
EmS No. F-A, S-B
Special precautions for user Not available.



ADR



IATA



IMDG

Section 15: Regulatory information

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

Other regulations This Safety Data Sheet complies with the requirements of Regulation (EC) No.1907/2006 (REACH) with its amendment Regulation (EU) 2020/878. No restrictions identified other than those already covered in regulations.

Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for the components of this mixture.

Section 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H314 Causes severe skin burns and eye damage.

Text of R-phrases mentioned in Section 3

R34 Causes severe burns.

Training advice Not available

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Please call for document accuracy if the revision date has exceeded 3 years.

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