MATERIAL SAFETY DATA SHEET

Fluorosilicic Acid

Section 01 - Chemical And Product And Company Information

Product Identifier …….. Fluorosilicic Acid

Product Use …….…. Water fluoridation and wood preservation.

Supplier Name…….…….…. ClearTech Industries Inc.
1500 Quebec Avenue
Saskatoon SK S7K 1V3
Canada

Prepared By.....…….…. ClearTech Industries Inc. Technical Department
Phone: 1 (800) 387-7503

24-Hour Emergency Phone……. 1 (800) 387-7503

Section 02 - Composition / Information on Ingredients

Hazardous Ingredients.....……... Hydrofluorosilicic acid 23-27%

CAS Number.....……... Hydrofluorosilicic acid 16961-83-4

Synonym (s).....…….. Fluosilicic acid, hydrofluorosilicic acid, hydrofluosilicic acid, hexafluosilicic acid

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Section 03 - Hazard Identification

Inhalation..... Irritating to nose, throat, and respiratory system. May be corrosive to respiratory system with prolonged contact. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.

Skin Contact / Absorption..... May cause irritation, redness or swelling with contact.

Eye Contact..... Contact may cause severe irritation, watering, redness and swelling.

Ingestion..... May cause nausea, vomiting, abdominal pain and burns if ingested.

Exposure Limits..... ACGIH-TLV: 2.5mg/m^3 (as F)
OSHA-PEL: 2.5mg/m^3 (as F)

Section 04 - First Aid Measures

Inhalation..... Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention if difficulties persist.

Skin Contact / Absorption..... Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.

Eye Contact..... Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention

Ingestion..... Do not induce vomiting. Give large amounts of water. Do not give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention.

Additional Information..... Beware of late onset pulmonary edema for up to 48 hours. Treat severe burns as per hydrofluoric acid exposure with a calcium gluconate jelly.

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Section 05 - Fire Fighting

Conditions of Flammability…….. Non-flammable

Means of Extinction.....……... Product does not burn. Where fire is involved, use any fire fighting agent appropriate for surrounding material; use water spray to cool fire-exposed surfaces.

Flash Point...……. Not Applicable

Auto-ignition Temperature……. Not Applicable

Upper Flammable Limit …….. Not Applicable

Lower Flammable Limit...…….. Not Applicable

Hazardous Combustible Products... Corrosive fumes of hydrogen fluoride and silicon tetrafluoride will occur when decomposition occurs 105°C.

Special Fire Fighting Procedures.... Wear NIOSH-approved self-contained breathing apparatus and protective clothing.

Explosion Hazards……... Not Available

Section 06 - Accidental Release Measures

Leak / Spill.....…….. Wear appropriate personal protective equipment. Ventilate area. Stop or reduce leak if safe to do so. Prevent material from entering sewers and surface water. Dike spill area with sand or earth.

Deactivating Materials...…….. Small spills can be neutralized with hydrated lime.

Section 07 - Handling and Storage

Handling Procedures.....…….. Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.

Storage Requirements.....……..…. Store in a cool, dry, well-ventilated place. Keep container tightly closed, and away from incompatible materials. Do not store in glass or stoneware. Most metals are incompatible so avoid contact.

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Section 08 - Personal Protection and Exposure Controls

Protective Equipment

Eyes…….. Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.

Respiratory……... A NIOSH approved cartridge respirator with full-face shield. Chemical cartridge should provide protection against acid fumes (hydrogen fluoride). For concentrations greater than 20ppm, a NIOSH approved self-contained breathing apparatus with full-face shield should be used.

Gloves……... Impervious gloves of chemically resistant material (rubber or neoprene) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Clothing……..……... Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Footwear……... Impervious boots of chemically resistant material should be worn at all times.

Engineering Controls

Ventilation Requirements……..... Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions should be provided. Supply sufficient replacement air to make up for air removed by exhaust systems.

Other……... Emergency shower and eyewash should be in close proximity.

Section 09 - Physical and Chemical Properties

Physical State.....……...……... Liquid

Odor and Appearance…..…….. Colourless to pale yellow liquid with a pungent odour

Odor Threshold...…….…..... Not Available

Specific Gravity (Water=1)…….. 1.234 at 15.6°C and 24% concentration

Vapor Pressure (mm Hg, 20C)…….. 218 at 75℃

Vapor Density (Air=1)..……... Not Available

Evaporation Rate.....…….…….. Not Available

Boiling Point.....……... 105℃

Freeze/Melting Point..... -15℃

pH..... Approximately 1.0

Water/Oil Distribution Coefficient.... Not Available

Bulk Density..... 10.29lbs/gal at 25% concentration

% Volatiles by Volume..... Not Available

Solubility in Water..... Completely miscible.

Molecular Formula..... H_2SiF_6

Molecular Weight..... 144.08

Section 10 - Stability and Reactivity

Stability..... Stable under normal conditions.

Incompatibility..... Metals, glass, alkali, ceramics, and strong concentrated acids. Strong concentrated acids will cause the liberation of poisonous hydrogen fluoride. Hydrofluorosilicic acid will attack glass and ceramics. Metals will be corroded and liberate hydrogen gas.

Hazardous Products of Decomposition.. Stable at room temperature. Attacks glass and stoneware. Decomposes to form hydrogen fluoride and silicon tetrafluoride when heated. Heat is generated when product is added to water.

Polymerization..... Will not occur.

Section 11 - Toxicological Information

Irritancy..... Product is corrosive.

Sensitization..... Not Available

Chronic/Acute Effects..... Liquid or vapors can cause burns which may not be apparent for hours. Prolonged exposure can result in: bone changes; corrosive effect on mucous membranes; ulceration of nose, throat, and bronchial tubes; cough, shock, pulmonary edema, fluorosis, coma, and death.

Synergistic Materials..... Not Available

Animal Toxicity Data..... LD_{50}(oral,guinea pig): 200mg/kg

Carcinogenicity..... IARC: Group 3 carcinogen (listed as ** undefined **).

Reproductive Toxicity..... Not Available

Teratogenicity..... Not Available

Mutagenicity..... Not Available

Section 12 - Ecological Information

Fish Toxicity..... Not Available

Biodegradability..... Not Available

Environmental Effects..... Not Available

Section 13 - Disposal Consideration

Waste Disposal..... Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 - Transportation Information

TDG Classification

Class..... 8

Group..... II

PIN Number..... UN 1778

Other..... Secure containers (full and/or empty) with suitable hold down devises during shipment.

Section 15 - Regulatory Information

WHMIS Classification.....E, D1

NOTE: THE PRODUCT LISTED ON THIS MSDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS MSDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

NSF Certification.....Product is certified under NSF/ANSI Standard 60 for fluoridation at a maximum dosage of 6mg/L.

Section 16 - Other Information

Preparation Date..... February 8, 2011

Revision Date..... February 3, 2014
March 18, 2014

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / MSDS coordinator

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Material Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service or technical service department.

ClearTech Industries Inc. - Locations

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Phone: 306-664-2522
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Richmond, B.C.	12431 Horseshoe Way	V7A 4X6	1 (800) 387-7503	1 (888) 281-8109
Port Coquitlam, B.C	2023 Kingsway Ave	V3C 1S9	1 (800) 387-7503	1 (888) 281-8109
Calgary, AB.	5516E - 40th St. S.E.	T2C 2A1	1 (800) 387-7503	1 (888) 281-8109
Edmonton, AB.	11750 - 180th Street	T5S 1N7	1 (800) 387-7503	1 (888) 281-8109
Saskatoon, SK.	2302 Hanselman Avenue	S7L 5Z3	1 (800) 387-7503	1 (888) 281-8109
Regina, SK.	555 Henderson Drive	S42 5X2	1 (800) 387-7503	1 (888) 281-8109
Winnipeg, MB.	340 Saulteaux Crescent	R3J 3T2	1 (800) 387-7503	1 (888) 281-8109
Mississauga, ON.	7480 Bath Road	L4T 1L2	1 (800) 387-7503	1 (888) 281-8109

24 Hour Emergency Number - All Locations – 1 (800) 387-7503