Important Disclaimer

This MSDS applies to a concentrated form of hydrofluosilicic acid which is diluted by a factor of 330,000 times when added to drinking water. The resulting fluoride concentration (0.6 to 0.8 ppm) is within Health Canada's guidelines for optimum fluoride levels, is fully endorsed by Alberta Health Services and is consistent with our approval to operate issued by Alberta Environment and Sustainable Resource Development.

Material Safety Data Sheet

LA2389
Hydrofluosilicic Acid 25%

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Id: LA2389
Product Name: Hydrofluosilicic Acid 25%
Synonyms: Fluosilicic Acid, Hexafluosilicic Acid
Chemical Family: Inorganic Acid.
Application: Water fluoridation, Aluminium manufacture, Ceramics.

Distributed By:
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Prepared By: The Environment, Health and Safety Department of Univar Canada Ltd.
Preparation date of MSDS: 01/Oct/2013
Telephone number of preparer: 1-866-686-4827

24-Hour Emergency Telephone Number (CANUTEC): (613) 996-6666

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage (W/W)	LD50s and LC50s Route & Species:
Water 7732-18-5	Balance	Oral LD50 (Rat) >90 mL/kg
Fluorosilicic Acid 16961-83-4	15-40	Inhalation LC50 (Rat) 1.1 mg/L Oral LD50 (Rat) 125 mg/kg Oral LD50 (Rat) 430 mg/kg

Note: No additional remark.

3. HAZARDS IDENTIFICATION

Potential Acute Health Effects:
Eye Contact: Corrosive. Causes severe irritation, experienced as discomfort or pain, excess blinking and tear production, with marked excess redness and swelling of the conjunctiva.
Skin Contact: Corrosive. Causes severe skin irritation. Risk of hypocalcaemia following the extent of the lesions.
Inhalation: Causes severe respiratory irritation. Mists may cause lung irritation, shortness of breath, and fluid in the lungs. Irritation may lead to chemical pneumonitis and pulmonary edema.
Ingestion: Can cause severe irritation to the lungs, nose and throat if swallowed. Swallowing may result in irritation or burns of the mouth, throat and gastrointestinal tract. Perforation of the esophagus and stomach lining may occur.

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with copious quantities of water for at least 20 minutes holding lids apart to ensure flushing of the entire surface. Obtain medical attention.
Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.
Inhalation: Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.
Ingestion: DO NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.
Notes to Physician: Treatment based on sound judgment of physician and individual reactions of patient. Exposed person should be observed for 24 - 48 hours for delayed onset of pulmonary edema.

5. FIRE FIGHTING MEASURES

Flash Point: None.
Flash Point Method: Not applicable.
Autoignition Temperature: Not available.
Flammable Limits in Air (%): Not Available.
Extinguishing Media: Use DRY chemicals, CO2, alcohol foam or water spray.
Special Exposure Hazards: Do not get water inside container. Reacts with water to form hydrogen fluoride. Reacts with metals to generate flammable hydrogen gas. Container may rupture from gas generation in a fire situation. Use water spray to cool containers. Avoid spraying water directly into storage containers due to danger of boil over.
Hazardous Decomposition/Combustion Materials (under fire conditions): Toxic fumes. Corrosive fumes. Hydrogen fluoride. Silicon tetrafluoride. Hydrogen gas.
Special Protective Equipment: Fire fighters should wear full protective clothing, including self-contained breathing equipment.
NFPA RATINGS FOR THIS PRODUCT ARE: HEALTH 3, FLAMMABILITY 0, INSTABILITY 0
HMIS RATINGS FOR THIS PRODUCT ARE: HEALTH 3, FLAMMABILITY 0, REACTIVITY 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures: Wear appropriate protective equipment.
Environmental Precautionary Measures: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. Consult local authorities.
Procedure for Clean Up: Isolate hazard area and restrict access. Ventilate area. Dike area to prevent spill from spreading. Neutralize with lime slurry, limestone, or soda ash. Absorb with an inert dry material and place in an appropriate waste disposal container.

7. HANDLING AND STORAGE

Handling: For industrial use only. Handle and open container with care. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid inhalation of chemical. Empty containers may contain hazardous product residues. Keep the containers closed when not in use. Protect against physical damage. Use appropriate personnel protective equipment. Use non-sparking tools.
Storage: Store in a cool, dry, well ventilated area, away from heat and ignition sources. Store in accordance with good industrial practices. Do not store in glass or stoneware. Place away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Local exhaust ventilation as necessary to maintain exposures to within applicable limits.

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

Gloves:

Appropriate chemical resistant gloves should be worn. Neoprene gloves. Rubber gloves.

Skin Protection: Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Eyes: Chemical goggles. Also wear a face shield if splashing hazard exists. Do NOT wear contact lenses.

Other Personal Protection Data: Ensure that eyewash stations and safety showers are proximal to the work-station location.

Ingredients	Exposure Limit - ACGIH	Exposure Limit - OSHA	Immediately Dangerous to Life or Health - IDLH
Water	Not available.	Not available.	Not Available.
Fluorosilicic Acid	Not available.	Not available.	Not Available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Color: Colorless - Pale Straw Colored.
Odor: Pungent Irritating.
pH Not Available.
Specific Gravity: 1.2
Boiling Point: Decomposes.
Freezing/Melting Point: -15.5°C 4°F
Vapor Pressure: Not Available.
Vapor Density: Not Available.
% Volatile by Volume: Not Available.
Evaporation Rate: Not Available.
Solubility: Completely soluble.
VOCs: Not Available.
Viscosity: Not Available.
Molecular Weight: 144.08
Other: Not Available.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.
Hazardous Polymerization: Will not occur.
Conditions to Avoid: High temperatures. Temperatures over 90 °C.
Materials to Avoid: Strong acids. Alkali metals. Oxidizing agents. Combustible materials. Peroxides. Organic peroxides. Glass. Stoneware. Heat is generated when mixed with water. Spattering and boiling can occur.
Hazardous Decomposition Products: Toxic fumes when heated to decomposition. Hydrogen fluoride. Silicone Tetra-fluoride. Hydrogen gas.
Additional Information:

No additional remark.

11. TOXICOLOGICAL INFORMATION

Principle Routes of Exposure

Ingestion: Can cause severe irritation to the lungs, nose and throat if swallowed. Swallowing may result in irritation or burns of the mouth, throat and gastrointestinal tract. Perforation of the esophagus and stomach lining may occur.
Skin Contact: Corrosive. Causes severe skin irritation. Risk of hypocalcaemia following the extent of the lesions.
Inhalation: Causes severe respiratory irritation. Mists may cause lung irritation, shortness of breath, and fluid in the lungs. Irritation may lead to chemical pneumonitis and pulmonary edema.

11. TOXICOLOGICAL INFORMATION

Eye Contact: Corrosive. Causes severe irritation, experienced as discomfort or pain, excess blinking and tear production, with marked excess redness and swelling of the conjunctiva.

Additional Information: Prolonged exposure could result in bone changes, corrosive effect on mucous membranes including ulceration of nose, throat and bronchial tubes, cough, shock, pulmonary edema, Fluorosis, coma and death. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Pre-existing eye and skin disorders may be aggravated by exposure to this product.

Acute Test of Product:
Acute Oral LD50: Not Available.
Acute Dermal LD50: Not Available.
Acute Inhalation LC50: Not Available.

Carcinogenicity:

Ingredients	IARC - Carcinogens	ACGIH - Carcinogens
Water	Not listed.	Not listed.
Fluorosilicic Acid	Group 3	Not listed.

Carcinogenicity Comment: No additional information available.

Reproductive Toxicity/ Teratogenicity/ Embryotoxicity/ Mutagenicity: Not Available.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

Ingredients	Ecotoxicity - Fish Species Data	Acute Crustaceans Toxicity	Ecotoxicity - Freshwater Algae Data
Water	Not Available.	Not Available.	Not Available.
Fluorosilicic Acid	28.7 mg/L LC50 (Pimephales promelas) 96 h static 65 mg/L LC50 (Poecilia reticulata) 96 h static	Not Available.	Not Available.

Other Information:
No additional remark.

13. DISPOSAL CONSIDERATIONS

Disposal of Waste Method: Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.
Contaminated Packaging: Empty containers should be recycled or disposed of through an approved waste management facility.

14. TRANSPORT INFORMATION

DOT (U.S.):
DOT Shipping Name: FLUOROSILICIC ACID
DOT Hazardous Class 8
DOT UN Number: UN1778
DOT Packing Group: II
DOT Reportable Quantity (lbs): Not Available.
Note: No additional remark.
Marine Pollutant: No.

TDG (Canada):
TDG Shipping Name: FLUOROSILICIC ACID
Hazard Class: 8

14. TRANSPORT INFORMATION

UN Number: UN1778
Packing Group: II
Note: No additional remark.
Marine Pollutant: No.

15. REGULATORY INFORMATION

U.S. TSCA Inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory list or exempt.

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

Note: Not available.

U.S. Regulatory Rules

Ingredients:	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Water	Not Listed.	Not Listed.	Not Listed.
Fluorosilicic Acid	Not Listed.	Not Listed.	Not Listed.

California Proposition 65: Not Listed.
MA Right to Know List: Listed.
New Jersey Right-to-Know List: Listed.
Pennsylvania Right to Know List: Not Listed.

WHMIS Hazardous Class:
D1B TOXIC MATERIALS
E CORROSIVE MATERIAL
F DANGEROUSLY REACTIVE MATERIAL

16. OTHER INFORMATION

Additional Information: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Disclaimer:

NOTICE TO READER:
Univar, expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a Product Specification Sheet and/or a Certificate of Analysis. These can be obtained from your local Univar Sales Office.

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END OF MSDS

Important Disclaimer

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