

### SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product identifier

**Product name:** Sour  
**Product Code(s):** Sour  
**Synonym(s):** Fluorosilicic acid solution

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

**General use:** Laundry sour for industrial and institutional use  
**Uses advised against:** For industrial and institutional use only

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

**Manufacturer/Supplier**  
 VistaServ  
 1509 Edgar Place  
 Sarasota, FL 34240 USA  
 941-925-9277

#### 1.4 Emergency telephone number

24-Hour Emergency: ChemTel, Inc. - (800) 255-3924; +1-813-248-0585

### SECTION 2 - HAZARDS IDENTIFICATION

#### 2.1 Classification of substance or mixture

**Product definition:** Mixture  
**Classification in accordance with 29 CFR 1910 (OSHA HCS) and Regulation EC No. 1272/2008**  
 Acute Toxicity, Oral - Category 4 [H302]  
 Acute Toxicity, Dermal - Category 3 [H311]  
 Skin Corrosion - Category 1B [H314]

#### 2.2 Label elements

**Hazard symbol(s):**



**Signal word:** Danger

**Hazard statement(s):** H302 - Harmful if swallowed  
 H311 - Toxic in contact with skin  
 H314 - Causes severe skin burns and eye damage

**Precautionary statements:**

**[Prevention]** P260 - Do not breathe mist and vapor.  
 P264 - Wash hands and other exposed skin areas thoroughly after handling.  
 P270 - Do not eat, drink or smoke when using this product.  
 P280 - Wear protective gloves, protective clothing and eye protection.

**[Response]** P301 + P330 + P331 + P310 - IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Immediately call a POISON CENTER or doctor.  
 P303 + P361 + P353 - IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water or shower.  
 P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor.  
 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.  
 P321 - Specific treatment: Immediately contact a POISON CENTER or doctor. Refer to Section 4 of this SDS.  
 P363 - Wash contaminated clothing before reuse.

**[Storage]** P405 - Store locked up.

**[Disposal]** P501 - Dispose of contents and containers in accordance with national and local regulations.

#### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None known

### SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Not applicable

### 3.2 Mixtures

% by Weight	Ingredient	CAS Number	EC Number	Index Number	GHS Classification
8 - 18	Hydrofluorosilicic Acid	16961-83-4	241-034-8	009-011-00-5	H302, H311, H314
> 0.1 - < 1	Hydrofluoric Acid	7664-39-3	231-634-8	009-003-00-1	H300, H310, H314, H330

There are no additional ingredients present in this product 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.

## SECTION 4 - FIRST AID MEASURES

### 4.1 Description of first aid measures

**Inhalation:** If suspected that fumes are present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If unconscious, maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Calcium Gluconate 2.5% in normal saline may be given by nebulizer with oxygen. If unavailable, four Calcium Gluconate (500 mg) tablets should be given by mouth every two hours until the patient is admitted to the hospital. Get immediate medical attention.

**Eyes:** Immediately flush eyes with large amounts of water for 15 minutes, keeping eyelids apart and away from the eyeball. Remove contact lenses, if present and easy to do, and continue rinsing. Immediately contact a doctor, preferably an ophthalmologist. If a physician is not immediately available, apply one or two drops of 0.5% Tetracaine Hydrochloride solution or other topical ophthalmic anesthetic and continue irrigation. DO NOT use skin treatment preparations for burns for the eyes. Use no oils or greases unless instructed to do so by a doctor. Irrigate with 1% Calcium Gluconate in normal saline for one to two hours to prevent or lessen corneal damage.

**Skin:** Flush skin with large amounts of water while removing contaminated clothing using PVC gloves and continue rinsing for at least 15 minutes. Apply and continually massage Calcium Gluconate Gel (2.5%) into the burn area with gloved fingers until the pain is relieved. For larger burns or burns treated with Calcium Gluconate Gel (in which pain is present longer than 30 minutes), a physician should inject 5% aqueous Calcium Gluconate beneath, around and in the burned area. Use of local anesthetics is not recommended, as reduction in pain is an indicator of effectiveness of treatment. For large or severe burns four Calcium Gluconate (500 mg) tablets should be given by mouth every two hours, until patient receives medical care. Seek immediate medical attention.

**Ingestion:** Rinse mouth with water if the victim is conscious. Remove dentures if any. DO NOT induce vomiting. If swallowed, give 2 - 3 glasses of water to drink if victim is conscious and alert and able to swallow. Give four Calcium Gluconate (500 mg) tablets every two hours; if not available, give the victim milk or milk of magnesia. Never give anything by mouth to an unconscious or convulsing person. Do not leave the victim unattended. Seek immediate medical attention.

### 4.2 Most important symptoms and effects, both acute and delayed

#### Potential health symptoms and effects

**Eyes:** Corrosive. Causes severe burns to the eyes. Symptoms include pain, tearing, corneal opacity and blindness. Can cause permanent damage to the cornea. Direct contact with liquid may cause blindness and/or permanent eye damage.

**Skin:** Toxic in contact with skin. Causes deep and excruciatingly painful burns to the skin. Symptoms include redness, blistering, localized pain dermatitis and deep burns. Large or multiple burns over large body surface area may also cause hypocalcaemia and other toxic effects which may be fatal.

**Inhalation:** Toxic if inhaled. Causes severe irritation to the nose, throat and respiratory tract. Symptoms include dizziness, headache, incoordination, chest pains and coughing, respiratory paralysis and/or failure.

This material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Acute symptoms may include burning of the nose, throat and upper respiratory tract, nasal congestion, coughing, choking, laryngitis, chills, chest tightness, bronchitis and pulmonary edema. High concentrations in air may cause rapid inflammation and congestion of the lungs as well as severe breathing difficulties that may be delayed in onset (after exposure has ceased).

**Ingestion:** Very toxic if swallowed. Causes severe burns to the mouth, mucous membranes, throat, esophagus and stomach. Symptoms include spontaneous vomiting with diarrhea and possibly bloody stools.

Ingestion will result in severe burns of the mouth, throat and stomach. Symptoms may include swelling of the oral mucosa, nausea, vomiting, pain, diarrhea, bleeding and ulceration. May be fatal. Ingestion may also result in the fluoride ion binding with calcium to produce abnormally low levels of serum calcium (hypocalcaemia), which will impair many necessary physiological functions in the body (e.g. muscle contractions). Systemic toxicity is likely to occur unless medical treatment is immediate.

**Delayed effects:** The effects of contact with dilute solutions or vapors may be delayed up to 24 hours. Exposure can also cause bone and joint changes in humans (fluorosis).

**Chronic:** Prolonged or repeated exposure may lead to irreversible damage to health. Prolonged or repeated skin contact will lead to necrosis

### 4.3 Indication of any immediate medical attention and special treatment needed

#### Advice to doctor and hospital personnel

**First aid and medical treatment must be specific for Hydrofluoric Acid Solutions.** The damage caused by this product is far more extensive than that caused by solutions of Hydrochloric or other acids. Hydrofluoric Acid penetrates deeply and rapidly below fat layers, binding and depleting tissue calcium. Failure to start or provide correct medical treatment may be fatal.

There is a major risk of systemic toxicity following inhalation, ingestion or skin burns. Calcium depletion and electrolytic disorders may be fatal. Skin burns covering more than 5% of body area may be associated with systemic effects. Treatment with intravenous Calcium Gluconate should be started immediately.

Patient may require treatment in an intensive care unit. Serum calcium and magnesium analyses should be performed frequently, and the patient's electrolytic balance may need correction. Electrocardiograms should be monitored routinely for prolonged Q-T interval or bradycardia. Hepatic and renal function should be monitored. Intravenous corticosteroids may be necessary.

**Inhalation:** Inhalation may lead to chemical pneumonitis, hemorrhagic pulmonary edema and may be fatal. Acute respiratory failure may develop requiring airway support, 100% oxygen and positive end expiratory pressure treatment for pulmonary edema. Be prepared to intubate or perform a tracheotomy. The use of nebulized Calcium Gluconate in a 2% solution should be considered.

**Skin:** Skin burns may become necrotic or gangrenous and may spread. Infiltration of Calcium Gluconate into the surrounding tissue may be required for severe burns. This can be performed by the injection of 5% Calcium Gluconate solution. Injection should be made with care on the hands, feet and face. For fingers, toes and less severe burns, continue application of 2.5% Calcium Gluconate gel four to six times a day for up to three or four days. Wear gloves while applying the gel. If Calcium Gluconate solution is injected into the fingers or toes great care should be taken and not more than 0.5 ml should be injected. Pain not relieved by use of the gel is best managed by inter-arterial infusion of Calcium Gluconate solution by medical personnel experienced in this technique. Surgical debridement of the affected area may be necessary in larger burns to control hypocalcaemia. Delayed pulmonary edema may occur with burns to the face and/or neck.

**Eyes:** Following contact with the eyes ensure that first aid treatment has been carried out. Irrigate eyes with 1% Calcium Gluconate solution every two to three hours for as long as considered necessary. Topical anesthetic and corticosteroid drops may be useful. An ophthalmologist should be consulted as severe corneal damage is possible. Long term monitoring may be necessary.

**Ingestion:** Nasogastric suction with Calcium Gluconate solution may reduce systemic fluoride toxicity. The possibility of chemical burns to the gastrointestinal tract needs to be kept in mind. Acute systemic fluoride poisoning may cause hypocalcaemia (hypomagnesaemia) requiring intravenous calcium (magnesium) therapy. Electrocardiogram results and blood calcium/magnesium need to be monitored in acute systemic fluoride poisoning.

## SECTION 5 - FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable methods of extinction:** Use extinguishing media suitable for the surrounding fire.

**Unsuitable methods of extinction:** None known.

### 5.2 Special hazards arising from the substance or mixture

**CORROSIVE.** Product may liberate hydrogen gas on contact with metals, creating a fire and explosion hazard. Potential sources of ignition should be removed from the area. Closed containers may rupture due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention.

**Explosion hazards:** This product is not considered an explosion hazard.

### 5.3 Advice to firefighters

Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. Water contaminated by this material must be contained from being discharged to any waterway, sewer or drain to prevent environmental contamination.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non-essential personnel. Wear appropriate protective clothing and equipment designated in Section 8.2. Ventilate the area. Remove all sources of ignition. **NO SMOKING.** Clean up spills immediately. Spills create a slip hazard.

### 6.2 Environmental precautions

Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers or waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements.

### 6.3 Methods and materials for containment and cleaning up

DO NOT flush large spills down the drain. Approach spill from upwind direction. Discharged material may produce hydrogen fluoride fumes. Avoid drainage to areas that cannot be treated. Cover drains and contain spill. Carefully neutralize material with lime slurry, soda ash, limestone, caustic soda or other alkaline material. Exercise caution during neutralization as considerable heat may be generated. Cover with a large quantity of non-combustible, inert absorbent (e.g. sand, vermiculite, diatomaceous earth). DO NOT use combustible material such as sawdust. Collect using non-sparking tools and place into an approved container for proper disposal. Observe possible material restrictions (Sections 7.2, 10.5 and 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent poses the same hazard as the spilled product.

### 6.4 Reference to other sections

For indications about waste treatment, see Section 13.

## SECTION 7 - HANDLING AND STORAGE

### 7.1 Precautions for safe handling

DO NOT MIX WITH BLEACH OR OTHER CHEMICALS AND PRODUCTS. Wear all appropriate personal protective equipment specified in Section 8.2. Do not get in eyes or on skin or clothing. Do not inhale mist or vapor. NO SMOKING. If normal use of material presents a respiratory hazard, use only adequate ventilation or wear an appropriate respirator. Wash contaminated clothing thoroughly before reuse. Discard contaminated shoes.

#### Advice on protection against fire and explosion

Keep away from heat and incompatible materials.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in dry, cool, well-ventilated areas away from incompatible materials (see Section 10.5), food and drink. Separate from alkalis. DO NOT store in glass or metal containers. Transfer only to approved containers having correct labeling. Keep containers tightly closed when not in use. Protect containers against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. DO NOT reuse containers when empty as they contain product residue. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Keep locked up and out of reach of children.

### 7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

## SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Occupational exposure limit values

CAS Number	Ingredient	OSHA PEL	ACGIH TLV	NIOSH
67-17-5	Hydrofluoric Acid	3 ppm TWA	0.5 ppm TWA; 2 ppm Ceiling	3 ppm; 2.5 mg/m <sup>3</sup> TWA 6 ppm; 5 mg/m <sup>3</sup> Ceiling; 30 ppm IDLH
16961-83-4	Hydrofluorosilicic Acid	-----	2.5 mg/m <sup>3</sup> TWA	-----

### 8.2 Exposure controls

**Engineering measures:** Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.1.

**Individual protection measures:** Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

**Engineering measures:** Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.1.

**Individual protection measures:** Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

**Hygiene measures:** Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking, smoking or using the lavatory.

**Eye/face protection:** Wear protective chemical splash goggles and a face shield (8-inch minimum) during use. Refer to 29 CFR 1910.133, ANSI Z87.1 or European Standard EN 166.

**Hand protection:** Wear gloves made of butyl rubber or those recommended by glove supplier for protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.

**Skin protection:** Wear protective clothing. Wear protective boots if the situation requires.

**Respiratory protection:** Always use an approved respirator when vapor/aerosols exceed permissible exposure limits. Where risk assessment shows air-purifying respirators are appropriate use a half-mask respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Follow OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

**Environmental exposure controls:** Do not empty into drains.

*PPE must not be considered a long-term solution to exposure control. PPE usage must be accompanied by employer programs to properly select, maintain, clean fit and use. Consult a competent industrial hygiene resource to determine hazard potential and/or the PPE manufacturers to ensure adequate protection*



\* It is recommended that a face shield be worn with splash goggles when handling this product.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	Clear, colorless liquid
<b>Odor</b>	Pungent
<b>Odor Threshold</b>	No data available
<b>Molecular Weight</b>	144.09 g/mol (Hydrofluorosilicic Acid)
<b>Chemical Formula</b>	H <sub>2</sub> SiF <sub>6</sub> (Hydrofluorosilicic Acid)
<b>pH</b>	1 - 1.2 [estimated]
<b>Freezing/Melting Point</b>	- 4 - 5 °C (25 - 41 °F) [estimate]
<b>Boiling Point, Initial</b>	100 °C (212 °F)
<b>Evaporation Rate</b>	No data available
<b>Flammability (solid, gas)</b>	Not applicable
<b>Flash Point</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Lower Explosive Limit (LEL)</b>	No data available
<b>Upper Explosive Limit (UEL)</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Density</b>	1.120 - 1.130 g/ml (9.35 - 9.43 lb/gal) [calculated]
<b>Viscosity</b>	No data available
<b>Solubility in Water</b>	Soluble
<b>Partition Coefficient (n-octanol/water)</b>	No data available
<b>Oxidizing Properties</b>	Not applicable
<b>Explosive Properties</b>	Not applicable
<b>Volatiles by Weight @ 21 °C</b>	No data available

### 9.2 Other Data

May be corrosive to metals

## SECTION 10 - STABILITY AND REACTIVITY

### 10.1 Reactivity

No special reactivity has been reported during normal conditions of handling and use.

### 10.2 Chemical Stability

This material is stable under recommended storage and handling conditions.

### 10.3 Possibility of hazardous reactions

Reacts with glass, concrete and other silicon bearing materials to form silicon tetrafluoride gas. Reacts with carbonates, sulfides, and cyanides to yield toxic gases (carbon dioxide, hydrogen sulfide, hydrogen cyanide). Product reacts with alkalis and some oxides in a violent, exothermic reaction. Reaction with metals yields hydrogen gas, a fire and explosive reactive hazard. Corrosive to many materials including leather, natural rubber and many organics. Reacts violently with sodium hypochlorite, releasing chlorine gas.

Hazardous polymerization will not occur.

### 10.4 Conditions to avoid

Avoid temperature extremes and contact with incompatible materials.

### 10.5 Incompatible materials

Strong oxidizing agents, metals, alkalis, strong acids, stoneware, glass

### 10.6 Hazardous decomposition products

Thermal decomposition products include hydrogen fluoride gas and silicon oxides.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute oral toxicity

LD<sub>50</sub>, rat: 771 mg/kg [calculated]

#### Acute inhalation toxicity

Harmful if inhaled.

#### Acute dermal toxicity

Toxic in contact with skin.

#### Skin irritation

Causes severe skin burns.

**Eye irritation**

Causes serious eye damage.

**Sensitization**

No data available

**Genotoxicity**

No data available

**Mutagenicity**

No data available

**Specific organ toxicity - single exposure**

No data available

**Specific organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Further information**

This product contains no substances present at levels greater than or equal to the 0.1% threshold (de minimis) that are identified as a probable, possible, potential or confirmed carcinogens by ACGIH, IARC, NTP or OSHA. No data is available regarding the mutagenicity or teratogenicity of this product, nor is there any available data that indicates it causes adverse developmental or fertility effects.

Handle in accordance with good industrial hygiene and safety practice.

## SECTION 12 - ECOLOGICAL INFORMATION

**12.1 Toxicity**

Large discharges of this product to the environment may decrease the pH of aquatic systems to a value <2, which can be fatal to aquatic life and soil micro-organisms.

**12.2 Persistence and degradability**

Inorganic substances are not biodegradable. Methods for the determination of biodegradability are not applicable to inorganic substances.

**12.3 Bioaccumulation potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

No data available

**12.6 Other effects****Additional ecological information**

Do not allow material to enter surface waters, wastewater or soil.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## SECTION 13 - DISPOSAL CONSIDERATIONS

**13.1 Waste treatment methods**

**Methods of disposal:** The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Disposal of surplus and non-recyclable products should always comply with the requirements of environmental protection and in accordance with federal, state and local waste disposal regulations. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**RCRA F-Series:** No listings above the reportable threshold (de minimis)

**RCRA U-Series:** Hydrofluoric Acid (CAS #7664-39-3), U134

## SECTION 14 - TRANSPORT INFORMATION

**Note:** Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

**USA DOT (Ground Transportation) - Bulk and Non-bulk**

<b>Proper Shipping Name</b>	Fluorosilicic acid
<b>Hazard Class</b>	8
<b>UN/NA</b>	UN1778
<b>Packing Group</b>	II
<b>NEAREG</b>	Guide #154

**Drum Label(s)**

<b>Packaging Authorization</b>	Non-Bulk: 49 CFR 173.202; Bulk: 173.242
<b>Packaging Exceptions</b>	None
<b>IMO/IMDG (Water Transportation)</b>	
<b>Proper Shipping Name</b>	Fluorosilicic acid
<b>Hazard Class</b>	8
<b>UN/NA</b>	UN1778
<b>Packing Group</b>	II
<b>Marine Pollutant</b>	No
<b>EMS Number</b>	F-A, S-B
<b>ICAO/IATA (Air Transportation)</b>	
<b>Proper Shipping Name</b>	Fluorosilicic acid
<b>Hazard Class</b>	8
<b>UN/NA</b>	UN1778
<b>Packing Group</b>	II
<b>Quantity Limitations</b>	49 CFR 175.27 and 175.75 - Cargo Aircraft Only: 30 I; Passenger Aircraft: 1 I
<b>RID/ADR (Rail Transportation)</b>	
<b>Proper Shipping Name</b>	Fluorosilicic acid
<b>Hazard Class</b>	8
<b>UN/NA</b>	UN1778
<b>Packing Group</b>	II

## SECTION 15 - REGULATORY INFORMATION

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

#### U. S. Federal Regulations

**OSHA Hazard Communication Standard:** This material is classified as hazardous in accordance with OSHA 29 CFR 1910-1200.

**OSHA Process Safety Management Standard:** Hydrofluoric Acid (CAS # 7664-39-3) is regulated under OSHA PSM Standard 29 CFR 1910.119.

**EPA Risk Management Planning Standard:** Hydrofluoric Acid (CAS #7664-39-3) is regulated under EPA RMP Standard (RMP) 40 CFR Part 68.

**EPA Federal Insecticide, Fungicide and Rodenticide Act:** This product is not a registered Pesticide under the FIFRA, 40 CFR Part 150.

**Toxic Substance Control Act (TSCA) Inventory:** All substances in this product are listed on the TSCA Inventory. This product is subject to TSCA 12(b) Export Notification.

**Drug Enforcement Administration (DEA) List 2, Essential Chemicals (21 CFR 1310.02(b)) and 1310.4(f)(2)) and Chemical Code Number**  
No listings

**Drug Enforcement Administration (DEA) Lists 1 & 2, Exempt Chemical Mixtures (21 CFR 1310.12(c)) and Code Number:** No listings

**Department of Homeland Security (DHS) Chemical Facility Anti-Terrorism Standards (CFATS) Chemicals**  
Hydrofluoric Acid (CAS 7664-39-3) at concentrations of  $\geq 50\%$

#### **Superfund Amendments and Reauthorization Act (SARA)**

**SARA Section 311/312 Hazard Categories:** Acute Health Hazard, Chronic Health Hazard

**SARA 313 Information:** Hydrofluoric Acid (CAS #7664-39-3) is subject to the reporting levels established by Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.

**SARA 302/304 Extremely Hazardous Substance:** Hydrofluoric Acid (CAS #7664-39-3) is subject to reporting requirements of these sections of Title III of SARA.

**SARA 302/304 Emergency Planning & Notification:** Hydrofluoric Acid (CAS #7664-39-3) is subject to reporting requirements of these sections of Title III of SARA.

**Comprehensive Response Compensation and Liability Act (CERCLA):** This product contains the following CERCLA reportable substance(s): Hydrofluoric Acid (CAS #7664-39-3), RQ - 45.36 kg (100 lbs)

#### **Clean Air Act (CAA)**

Hydrofluoric Acid (CAS #7664-39-3), as 100% HF, is a Hazardous Air Pollutant (HAP) designated in CAA Section 112 (b).  
Hydrofluoric Acid (CAS #7664-39-3), as 100% HF, is found on the CAA Section 112 (b) list of Accidental Release Prevention Substances.  
This product does not contain Class 1 ozone depletors.  
This product does not contain Class 2 ozone depletors.

#### **Clean Water Act (CWA)**

Hydrofluoric Acid (CAS #7664-39-3) is a Hazardous Substance designated under the CWA.  
This product does not contain Priority Pollutants.  
This product does not contain Toxic pollutants.

#### U.S. State Regulations

##### **California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986**

This product contains no chemical(s) known to the state of California to cause cancer birth defects or reproductive harm in concentrations that

exceed the threshold (de minimis) reporting levels established under Proposition 65.

#### Other U.S. State Inventories

Hydrofluoric Acid (CAS #7664-39-3) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants List(s): NJ, NY.

Hydrofluorosilicic Acid (CAS #16961-83-4) is listed on the following the State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants list: CA, ID, MA, MN, NJ, PA, RI, WA.

#### Canada

##### WHMIS Hazard Classification

Causes severe skin burns and eye damage Toxic if Inhaled  
Causes severe damage to the respiratory tract Causes damage to organs through prolonged and repeated exposure

Canadian National Pollutant Release Inventory (NPRI): Hydrofluoric Acid (CAS #7664-39-3) is listed on the NPRI.

#### European Economic Community

WGK, Germany (Water danger/protection): 2 (hazardous to waters)

#### Global Chemical Inventory Lists

Country	Inventory Name	Listed *
Canada	Domestic Substance List (DSL)	Yes
Canada	Non-Domestic Substance List (NDSL)	No
Europe	Inventory of New and Existing Chemicals (EINECS)	Yes
United States	Toxic Substance Control Act (TSCA)	Yes
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	Yes
China	Inventory of Existing Chemical Substances in China	Yes
Japan	Inventory of Existing and New Chemical Substances	Yes
Korea	Existing Chemicals List (KECI)	Yes
Philippines	Philippines Inventory of Chemicals and Chemical	Yes

\*Yes - All components of this product are in compliance with the inventory requirements administered by the governing country.

No - One or more components of this product are not on the inventory or are exempt from listing.

## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

## SECTION 16 - OTHER INFORMATION

### Hazardous Material Information System (HMIS)

HEALTH	*	3
FLAMMABILITY		0
PHYSICAL HAZARD		0
PERSONAL PROTECTION		C

C = splash goggles, gloves and an apron

### HMIS Hazard Rating Legend

0 = Minimal 1 = Slight 2 = Moderate

3 = Serious 4 = Severe

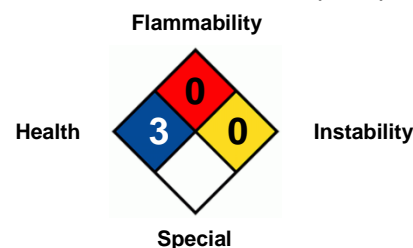
\* = Chronic Health Hazard

### NFPA Hazard Rating Legend

0 = Insignificant 1 = Slight 2 = Moderate

3 = High 4 = Extreme

### National Fire Protection Association (NFPA)



### Full text of GHS Hazard Phrases referenced in Section 3 (not covered in Section 2)

H300 - Fatal if swallowed

310 - Fatal in contact with skin

H330 - Fatal if inhaled

### Abbreviation Key

<b>ACGIH</b>	American Conference of Governmental Industrial Hygienists	<b>LD<sub>50</sub></b>	Lowest Lethal Dose
<b>ADR</b>	Accord Dangereux Routier (European regulations concerning the international transport of dangerous goods by road)	<b>mppcf</b>	Millions of Particles Per Cubic Foot
<b>CAS</b>	Chemical Abstract Services	<b>NA</b>	North America
<b>CFR</b>	Code of Federal Regulations	<b>NAERG</b>	North American Emergency Response Guide Book
<b>COC</b>	Cleveland Open Cup	<b>NIOSH</b>	National Institute for Occupational Safety & Health
<b>DOT</b>	Department of Transportation	<b>NTP</b>	National Toxicology Program
<b>EC50</b>	Half maximal effective concentration	<b>OSHA</b>	Occupational Safety and Health Administration
<b>EMS</b>	Emergency Response Procedures for Ships Carrying	<b>PBT</b>	Persistent, Bioaccumulating and Toxic
<b>EPA</b>	Environmental Protection Agency	<b>PEL</b>	Permissible exposure limit
<b>ErC<sub>50</sub></b>	Reduction of Growth Rate	<b>PMCC</b>	Pensky-Martens Closed Cup
<b>ERG</b>	Emergency Response Guide Book	<b>ppm</b>	Parts Per Million
<b>FDA</b>	Food and Drug Administration	<b>RCRA</b>	Resource Conservation and Recovery Act
<b>GHS</b>	Globally Harmonized System of Classification and Labelling of Chemicals (GHS)	<b>RID</b>	Dangerous Goods by Rail



**HCS** Hazard Communication Standard  
**IARC** International Agency for Research on Cancer  
**IATA** International Air Transport Association  
**IC<sub>50</sub>** Half Maximal Inhibitory Concentration  
**ICAO** International Civil Aviation Organization  
**IDLH** Immediately Dangerous to Life and Health  
**IMDG** International Maritime Dangerous Goods  
**IMO** International Maritime Organization  
**LC<sub>50</sub>** 50% Lethal Concentration  
**LD<sub>50</sub>** 50% Lethal Dose

**RQ** Reportable Quantity  
**TCC/Tag** Tagliabue Closed Cup  
**TLV** Threshold Limit Value  
**TSCA** Toxic Substance Control Act  
**TWA** Time-weighted Average  
**UN** United Nations  
**VOC** Volatile Organic Compounds  
**vPvB** Very Persistent and Very Bioaccumulating  
**WHMIS** Workplace Hazardous Materials Information System

#### **DISCLAIMER OF RESPONSIBILITY**

The information herein is given in good faith and is believed to be accurate and correct; however, no warranty, expressed or implied, is made. VistaServ Inc. assumes no responsibility for personal injury or property damage that may arise from the use of this material since the conditions of handling and use are beyond our control. It is the responsibility of the user to comply with all Federal, State and local laws and regulations regarding use of this product. Vendees or users assume all risks associated with the use of this material.

Preparation date: 27 November 2018, Version 3

<end of document>