

## Safety Data Sheet

# HYDROFLUOSILICIC ACID SOLUTION

Version 1.1

Revision Date: 08/02/2021

### SECTION 1. IDENTIFICATION

**Product name** : HYDROFLUOSILICIC ACID SOLUTION

**Synonyms** : HFS; Fluorosilicic Acid; Hydrofluorosilicic Acid

#### Recommended use of the chemical and restrictions on use

**Recommended use** : Industrial chemical

**Restricted Uses** : No data available

#### Manufacturer or supplier's details

**Company** : Univar Solutions Canada Ltd.  
**Address** : 9800 Van Horne Way  
Richmond, BC V6X1W5  
Canada

#### Emergency telephone number:

Local Emergency Contact : During Office hours Monday-Friday, 8.00 am - 4.30 pm (Pacific Standard Time) : 1-866-686-4827

**Additional Information:** : Responsible Party: Product Compliance Department  
E-mail: SDSNA@univarsolutions.com  
SDS Requests: 1-855-429-2661  
Website: www.univarsolutions.com

### SECTION 2. HAZARD IDENTIFICATION

#### Hazardous Classification of the substance or mixture

Corrosive to metals : Category 1

Acute toxicity (Oral) : Category 4

Acute toxicity (Dermal) : Category 3

Skin corrosion : Category 1

Serious eye damage : Category 1

#### Label elements

**Hazard pictograms** :



**Signal word** : Danger

**Hazard statements** : H290 May be corrosive to metals.

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H302 Harmful if swallowed.  
 H311 Toxic in contact with skin.  
 H314 Causes severe skin burns and eye damage.

Precautionary statements : **Prevention:**  
 P234 Keep only in original packaging.  
 P264 Wash skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
 P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.  
 P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
 P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/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/doctor.  
 P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.  
 P390 Absorb spillage to prevent material damage.  
**Storage:**  
 P405 Store locked up.  
**Disposal:**  
 P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Hazardous components

CAS-No.	Chemical name	% by Weight	Synonyms
16961-83-4	Fluorosilicic Acid	10 - 30	Fluorosilicic Acid
7664-39-3	Hydrofluoric acid	0.1 - 1	Hydrofluoric acid

Actual concentration or concentration range is withheld as a trade secret

## SECTION 4. FIRST-AID MEASURES

General advice : Move out of dangerous area.

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	<p>Consult a physician.          Show this safety data sheet to the doctor in attendance.          Symptoms of poisoning may appear several hours later.          Do not leave the victim unattended.</p>
If inhaled	<p>: If unconscious, place in recovery position and seek medical advice.          If symptoms persist, call a physician.</p>
In case of skin contact	<p>: Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.          Take victim immediately to hospital.          If on skin, rinse well with water.          If on clothes, remove clothes.</p>
In case of eye contact	<p>: Small amounts splashed into eyes can cause irreversible tissue damage and blindness.          In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.          Continue rinsing eyes during transport to hospital.          Remove contact lenses.          Protect unharmed eye.          Keep eye wide open while rinsing.          If eye irritation persists, consult a specialist.          Take victim immediately to hospital.</p>
	<p>Small amounts splashed into eyes can cause irreversible tissue damage and blindness.          In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.          Continue rinsing eyes during transport to hospital.          Remove contact lenses.          Protect unharmed eye.          Keep eye wide open while rinsing.          If eye irritation persists, consult a specialist.</p>
If swallowed	<p>: Keep respiratory tract clear.          Do NOT induce vomiting.          Do not give milk or alcoholic beverages.          Never give anything by mouth to an unconscious person.          If symptoms persist, call a physician.          Take victim immediately to hospital.</p>

## SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Carbon dioxide (CO2) Foam Dry powder Water mist
Unsuitable extinguishing media	: High volume water jet

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Specific hazards during fire-fighting	: Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	: No hazardous combustion products are known
Further information	: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary.

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment.
Environmental precautions	: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	: Neutralize with chalk, alkali solution or ammonia. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

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### SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	: Normal measures for preventive fire protection.
Advice on safe handling	: Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	: Prevent unauthorized access. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with

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the technological safety standards.

Materials to avoid : Do not store near acids.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
7664-39-3	Hydrofluoric acid	TWA	0.5 ppm 0.4 mg/m <sup>3</sup> (Fluorine)	CA AB OEL
		(c)	2 ppm 1.6 mg/m <sup>3</sup> (Fluorine)	CA AB OEL
		C	2 ppm (Fluorine)	CA BC OEL
		C	3 ppm 2.6 mg/m <sup>3</sup> (Fluorine)	CA QC OEL

### Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Acidic gas/vapour type

### Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : Avoid contact with skin, eyes and clothing.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and immediately after handling the product.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance	: liquid
Colour	: Clear, Colorless, Straw color
Odour	: pungent
Odour Threshold	: No data available
pH	: 1 - 2
Freezing Point (Melting point/freezing point)	: -20 °C (-4 °F)
Boiling Point (Initial boiling point and boiling range)	: 136 - 163 °C (277 - 325 °F)
Flash point	: does not flash
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative density	: 1.2 @ 25 °C (77 °F) Reference substance: (water = 1)
Density	: 10.17 lb/gal
Solubility(ies) Water solubility	: Miscible
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Thermal decomposition	: No data available

### SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use. No decomposition if stored and applied as directed.
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Chemical stability	: Stable under normal conditions. No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: No decomposition if stored and applied as directed.
Conditions to avoid	: Keep away from heat, flame, sparks and other ignition sources. No data available
Incompatible materials	: glass Strong oxidizing agents

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

Acute oral toxicity	: Acute toxicity estimate: 500.1 mg/kg
Acute inhalation toxicity	: Acute toxicity estimate: > 40 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	: Acute toxicity estimate: 500.05 mg/kg

**Components:****7664-39-3:**

Acute oral toxicity	: Assessment: The component/mixture is highly toxic after single ingestion. Remarks: No data available
Acute inhalation toxicity	: LC50 (Rat): 1610 ppm Assessment: The component/mixture is highly toxic after short term inhalation.
Acute dermal toxicity	: Assessment: The component/mixture is extremely toxic after single contact with skin. Remarks: No data available

**Skin corrosion/irritation****Product:**

Remarks: Extremely corrosive and destructive to tissue.

**Components:**

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### 16961-83-4:

Species: Rat  
Result: Causes burns.

### 7664-39-3:

Species: Rabbit  
Result: Causes severe burns.

### Serious eye damage/eye irritation

#### Product:

Remarks: May cause irreversible eye damage.

#### Components:

##### 7664-39-3:

Species: Rabbit  
Result: Risk of serious damage to eyes.

### Germ cell mutagenicity

#### Components:

##### 7664-39-3:

Genotoxicity in vitro	: Test Type: Ames test Species: Salmonella typhimurium Result: negative
Genotoxicity in vivo	: Test Type: In vivo micronucleus test Species: Mouse Result: negative
Germ cell mutagenicity - Assessment	: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

### Carcinogenicity

#### Components:

##### 7664-39-3:

Species: Rat  
NOAEL: 25 mg/kg bw/day

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

#### **ACGIH**

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

### Reproductive toxicity

#### Components:

##### 7664-39-3:



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Reproductive toxicity - Assessment

Fertility classification not possible from current data.

Teratogenicity - Assessment : Embryotoxicity classification not possible from current data.

### Further information

#### Product:

Remarks: No data available

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### **7664-39-3:**

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 97 mg/l  
Exposure time: 48 h

Toxicity to algae : Remarks: No data available

### Persistence and degradability

No data available

### Bioaccumulative potential

No data available

### Mobility in soil

No data available

### Other adverse effects

#### Product:

Additional ecological information : No data available

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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.  
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Univar Solutions ChemCare: 1-800-637-7922

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Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

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### SECTION 14. TRANSPORT INFORMATION

#### **TDG (Transportation of Dangerous Goods):**

UN1778, FLUOROSILICIC ACID, 8, II

#### **IATA (International Air Transport Association):**

UN1778, Fluorosilicic acid, 8, II

#### **IMDG (International Maritime Dangerous Goods):**

UN1778, FLUOROSILICIC ACID, 8, II

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### SECTION 15. REGULATORY INFORMATION

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by the HPR.

**NPRI Components** : 7647-01-0  
7664-39-3

#### **The components of this product are reported in the following inventories:**

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

NZIoC : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

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### SECTION 16. OTHER INFORMATION

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions EHS Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

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**Material number:**

16170213, 16169394, 16171091, 16145665, 16144609, 16151122, 16148601, 16159674, 16166531, 16141271, 16148010, 16150746, 16145666, 16143932, 16147890, 16140484

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Infor-

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			mation System
LC50		Lethal Concentration 50%	