



Alexander
Chemical
Corporation

PRODUCT SPECIFICATION SHEET
HYDROFLUOSILICIC ACID
Effective 11/7/2003

Chemical Properties:

Chemical formula:	H ₂ SiF ₆
Molecular weight:	144.06
Hydrofluosilicic acid, %:	23.00 - 25.00
Phosphoric acid, %:	0.01 - 0.11
Heavy metals as lead, ppm:	200.00 maximum

Physical Properties:

Boiling point, °F:	225.00
Freezing point, °F:	- 4.00
Specific gravity @ 60 °F:	1.223 @ 25.00 %
Vapor pressure, mm Hg @ 167 °F:	218
pH:	1.2
Appearance:	Colorless to yellow colored liquid
Color:	100 APHA maximum
Odor:	Sour, pungent
Solubility in water:	Complete
NSF International maximum use:	6.00 milligrams per liter

Meets ANSI / AWWA specification B703

Packaged by:

Alexander Chemical Corporation
Kingsbury Industrial Park
Kingsbury, Indiana 46345
800-348-8827



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MATERIAL SAFETY DATA SHEET
HYDROFLUOSILICIC ACID

Effective 11/7/2003; Updated 8/22/08

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SECTION 1 - EMERGENCY TELEPHONE

Alexander Chemical Corporation (business hours): 800/348-8827
Alexander Chemical Corporation (after business hours): 800/445-9458
CHEMTREC: 800/424-9300

SECTION 2 - DISTRIBUTOR INFORMATION

Alexander Chemical Corporation	Alexander Chemical Corporation
Kingsbury Industrial Park	6300 Trillium Trail
Kingsbury, Indiana 46345	Mason, Michigan 48854800/348-8827

SECTION 3 - PRODUCT IDENTITY

Product name: Fluorosilicic acid, fluosilicic acid, hydrofluorosilicic acid, hydrofluosilic acid, HFSA.

Chemical name: Hydrofluosilicic acid.

Chemical formula: H_2SiF_6 .

CAS number: 016961-83-4.

Hazardous ingredients: Hydrofluosilicic acid, 23 - 25 % by weight.

OSHA 29 CFR 1910.1200 evaluation: Hazardous.

SECTION 4 - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance and odor: White to straw yellow with a pungent, sour penetrating odor.

Boiling point: 225 °F.

Freezing point: - 4.0 °F.

Specific gravity: 1.223 @ 25 %.

pH: 1.2.

Solubility in water: : Complete.

Vapor pressure: 218 mm Hg @ 167 °F.

Molecular weight: 144.06.

SECTION 5 - FIRE AND EXPLOSION HAZARD DATA

Flash point: None.

Flammable limits in air: Lower: Not applicable. Upper: Not applicable.

Autoignition temperature: Not applicable.

Extinguishing media: Use agent which is appropriate for surrounding fire.

Special fire fighting procedures and precautions: Cool containers with water spray. Dry chemicals and carbon dioxide may be used safely. Wear acid-proof personal protective gear and use self-contained breathing protection.

Unusual fire and explosion hazards: Reacts with many metals giving off highly flammable hydrogen gas which may form explosive mixtures with air. Dangerous; when heated to decomposition, highly toxic and corrosive fumes of fluorides are emitted; will react with water or steam to produce toxic and corrosive fumes.

SECTION 6 - REACTIVITY DATA

Stability: Stable under normal conditions.

Hazardous polymerization: Will not occur.

Incompatibility: Combustible solids, organic peroxides, metals, glass, stoneware, alkali, strong concentrated acids such as sulfuric and perchloric acids.

Conditions to avoid: Temperatures above 227 °F.

Hazardous decomposition products: Hydrogen fluoride and sodium tetrafluoride on heating. Hydrogen on contact with metals which may form explosive mixtures in air.

SECTION 7 - HEALTH HAZARD DATA

Eye contact: Severe irritation, burns and keratonconjunctivitis can occur.

Skin contact: Severe irritation, dermatitis and burns can occur.

Ingestion: Vomiting, diarrhea, thirst, cyanosis and those symptoms reported for inhalation can occur.

Inhalation: Exposures may lead to severe irritation, corrosion and congestion of the respiratory tract. Bronchospasm, pulmonary edema, anorexia, nausea, vomiting, constipation, weight loss, weakness, shortness of breath and stiffness of joints may occur.

Aggravated medical conditions: Any skin condition and / or preexisting respiratory disease, including asthma and emphysema.

Carcinogenicity: This material is not listed by IARC, NTP or OSHA.

SECTION 8 - FIRST AID

Eyes: Flush with flowing water for at least 15 minutes. Eyelids should be held apart during the flushing to insure contact of water with all tissue of the eyes and lids. Seek medical aid promptly.

Skin: Flush with large quantities of water for at least 15 minutes while removing contaminated clothing. Seek medical aid promptly.

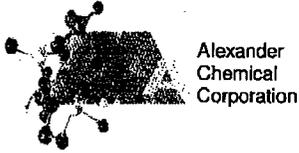
Ingestion: If conscious, give 1 - 2 large glasses of water. Do not induce vomiting. If vomiting occurs, repeat treatment. Seek medical aid immediately.

Inhalation: Remove victim to fresh air. If not breathing, perform artificial respiration. Administer oxygen until victim breathes easily. Seek medical aid promptly.

Note to physician: Pulmonary edema may be delayed for up to 48 hours.

SECTION 9 - STORAGE, HANDLING AND USE

Special precautions to be taken in handling and storage: Store in closed containers in cool, dry well ventilated area away from sources of heat or ignition. Do not store in metal, glass or stoneware. Use non-sparking tools. Keep separate from alkali metals, oxidizing agents, combustible solids and organic peroxides.



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Steps to be taken in case material is released or spilled: Dike area and dilute the acid to reduce fumes. Neutralize with hydrated lime. Do not allow solution to enter sewers or surface water. Personnel should protect against inhalation and contact. Provide ventilation and be wary of hydrogen generation upon reaction with some metals.

Waste disposal methods: If uncontaminated, recover and reuse as product. After neutralizing, dispose of spilled material through an approved industrial treatment facility, in accordance with all local, state and federal regulations.

SECTION 10 - EXPOSURE CONTROL INFORMATION

Exposure guidelines:

ACGIH TLV and OSHA (PEL): 2.5 mg / m³ as F.

Ventilation: Control airborne concentrations below the exposure guidelines with general or local exhaust.

Respiratory protection: When airborne exposure guidelines and/or comfort levels may be exceeded, use a NIOSH approved air purifying respirator in accordance with 29 CFR 1910.132 and 1910.134. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved self-contained breathing apparatus.

Skin protection: Prevent contact with skin by use of acid-proof clothing, gloves and shoes. Safety shower should be located in immediate work area.

Eye protection: Carefully fitted gas-tight chemical goggles, with approved impact resistant lenses, should always be worn in areas where hydrofluosilicic acid is present. Plastic face shield and chemical goggles or full-face respirator should be used for tasks with greater probability of exposure. Eyewash fountains recommended in all storage and handling areas. Do not wear contact lenses.

SECTION 11 - WASTE DISPOSAL PROCEDURES

Dispose of in accordance with federal, state and local regulations.

SECTION 12 - REGULATORY INFORMATION

Hydrofluosilicic acid is listed on the TSCA inventory.

S.A.R.A. hazard category: This product has been reviewed according to the EPA "hazard categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 and is considered an immediate health hazard.

N.F.P.A. ratings: Health = 2, Flammability = 0, Reactivity = 1.

D.O.T.:

Proper shipping name: Fluorosilicic acid.

Hazard class: 8.

Identification number: UN 1778.

Packing group: II.

Label(s) required: Corrosive.

Other information:

C.E.R.C.L.A. reportable quantity: 100 pounds as D002 waste.

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