

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Hydrofluorosilicic Acid 23% (HFS)

Synonyms: Hydrofluorosilicic Acid (HFS)

CAS Number: 16961-83-4

Grade/Purity: Technical Grade

Product Type: Acids

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer/Supplier: Alliance Chemical, 204 South Edmond St, Taylor, Texas 76574

Information: 512-365-6838 | www.alliancechemical.com

Emergency: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

Signal Word: Danger

GHS Pictograms:



Hazard Statements:

H290	May be corrosive to metals
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H332	Harmful if inhaled

Precautionary Statements:

P260	Do not breathe dust, fume, gas, mist, vapours or spray.
P264	Wash hands and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, and eye/face protection.
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 or shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor.
P312	Call a POISON CENTER or doctor if you feel unwell.
P321	Specific treatment (see first-aid information on this label).
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	

Dispose of contents and container in accordance with local, regional, national, and international regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	% MIN	% MAX	CAS #	EINECS# / ELINCS#	FORMULA	MOLECULAR WEIGHT
Hydrofluorosilicic Acid (HFS)	23	23	16961-83-4	241-034-8	F ₆ H ₂ Si	144.091 g/mol
Water	77	77	7732-18-5	231-791-2	H ₂ O	18.02 g/mol

4. FIRST-AID MEASURES

Eyes	EYES: immediately wash with water for 15 min.; call a physician.
Skin	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer immediately for medical attention.
Inhalation	INHALATION: remove victim to fresh air; get medical attention.
Ingestion	INGESTION: give large amounts of water; do NOT induce vomiting.

5. FIRE-FIGHTING MEASURES

Suitable Media	Dry chemical, CO ₂ , water spray. Use water spray to cool containers.
Unsuitable Media	Do not use a solid water stream as it may scatter and spread fire.
Protective Equipment	Wear self-contained breathing apparatus and full protective clothing.
Combustion Products	May include carbon oxides and other toxic fumes. See Section 10.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use PPE as described in Section 8. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental	Prevent leakage or spillage from entering drains, sewers, or waterways.
Containment & Cleanup	Absorb with inert material. Collect in appropriate waste container. Dispose per applicable regulations.

7. HANDLING AND STORAGE

Safe Handling	Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep container closed when not in use.
Safe Storage	Store in a cool, dry, well-ventilated area. Use corrosion-resistant containers. Keep away from incompatible materials (see Section 10). Keep containers tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use adequate ventilation. Provide eyewash stations and quick-drench showers accessible to areas of use.

Occupational Exposure Limits:

No established occupational exposure limits.

Eyes	Wear chemical safety goggles or face shield.
Skin	Wear chemical-resistant gloves and protective clothing.
Inhalation	For mist or aerosol applications (e.g., spray, atomization, pressure washing), use a NIOSH-approved half-face air-purifying respirator with combination acid gas / P100 cartridges. For dust exposure, an N95 or P100 particulate filter is acceptable. Ensure local exhaust ventilation.

Exposure limits sourced from NIOSH Pocket Guide and OSHA 29 CFR 1910.1000. Hazard classification from ECHA Classification and Labelling Inventory (CLP Annex VI).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless, fuming liquid
Odor	Sour, pungent

Particle Characteristics	Not Applicable
pH	Not Available
Melting Point	Not characterized for the 23% solution
Boiling Point	Not characterized for the 23% solution
Flash Point	Not Available
Vapor Pressure	Not Available
Specific Gravity	1.19
Solubility	Soluble in water and alcohol
Molecular Formula	F ₆ H ₂ Si
Molecular Weight	144.091 g/mol

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions.
Hazardous Reactions	None under normal processing conditions.
Conditions to Avoid	Heat, sparks, open flame, and incompatible materials.
Incompatible Materials	Strong acids, strong bases, reactive metals, water (for some concentrated forms).
Decomposition Products	May produce carbon oxides and other toxic fumes when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: See Section 2 for GHS hazard classification.

IARC	Not listed as carcinogen.
NTP	Not listed as carcinogen.
OSHA	Not listed as carcinogen.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Data not available. Avoid release to the environment.
Persistence	Hydrolyzes in water to fluoride + silica; aquatic toxicity pH/fluoride-driven (corrosive, pH 1.5–2.0)
Bioaccumulation	Not Available
Mobility in Soil	Complete water solubility; dissociates

13. DISPOSAL CONSIDERATIONS

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not dispose of into drains or waterways.

14. TRANSPORT INFORMATION

US DOT	UN1778, Fluorosilicic acid, 8 (6.1), PG II
IMDG	UN1778, Fluorosilicic acid, 8 (6.1), PG II
IATA/ICAO	UN1778, Fluorosilicic acid, 8 (6.1), PG II
Marine Pollutant	No

15. REGULATORY INFORMATION

TSCA Inventory	Listed.
SARA 313 (TRI)	Not listed.
California Prop 65	Not listed.
SARA 311/312	See Section 2 for hazard classifications.

Data retrieved as of — TSCA Inventory: 2026-08-02; SARA 313 (TRI): 2026-08-02; California Prop 65: 2026-08-02

16. OTHER INFORMATION

Revision Date: 08/09/2026

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