# SAFETY DATA SHEET

**Hydrofluorosilicic Acid 23% (HFS)**

Revised: 07/01/2026

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Hydrofluorosilicic Acid 23% (HFS)
**Synonyms:** Hydrofluorosilicic Acid (HFS)
**CAS Number:** 16961-83-4
**Grade/Purity:** Technical
**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:**

| | |
|---|---|
| H314 | Causes severe skin burns and eye damage [Danger Skin corrosion/irritation] |
| H301 | Toxic if swallowed |

**Precautionary Statements:**

| | |
|---|---|
| P260, | P264, P280, P301+P330+P331, P302+P361+P354, P304+P340, P305+P354+P338, P316, P321, P363, P405, and P501 |

## 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 | $F_6H_2Si$ | 144.091 g/mol |
| Water | 77 | 77 | 7732-18-5 | 231-791-2 | $H_2O$ | 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, CO2, 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. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | Colorless, fuming liquid |
| **Odor** | Characteristic |
| **Median Particle Size** | Not Applicable |
| **Particle Size Distribution** | Not Applicable |
| **Particle Shape** | Not Applicable |
| **Surface Area** | Not Applicable |
| **Dustiness** | Not Applicable |
| **Hygroscopicity** | Not Applicable |
| **pH** | Not Available |
| **Melting Point** | Not characterized for the solution |
| **Boiling Point** | Not characterized for the solution |
| **Flash Point** | Not Available |
| **Vapor Pressure** | Not Available |
| **Specific Gravity** | 1.19 |
| **Solubility** | Soluble in water and alcohol |
| **Molecular Formula** | $F_6H_2Si$ |
| **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

| | |
|---|---|
| **Regulatory listings not yet on file in this system; consult OSHA, EPA TSCA, EPCRA TRI, and California OEHHA directly.** | |
| **SARA 311/312** | See Section 2 for hazard classifications. |

## 16. OTHER INFORMATION

**Revision Date:** 07/01/2026

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