

### 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](http://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 <sub>6</sub> H <sub>2</sub> Si | 144.091 g/mol    |
| Water                         | 77    | 77    | 7732-18-5  | 231-791-2         | H <sub>2</sub> O                 | 18.02 g/mol      |

### 4. FIRST-AID MEASURES

|            |                                                                                                                                                                                        |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eyes       | Rinse with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention immediately.                             |
| Skin       | Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing. Wash with soap. Get medical attention immediately.                                |
| Inhalation | Move person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately. |
| Ingestion  | Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.                             |

### 5. FIRE-FIGHTING MEASURES

|                      |                                                                                  |
|----------------------|----------------------------------------------------------------------------------|
| Suitable Media       | Dry chemical, CO <sub>2</sub> , 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                       | 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 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 <sub>6</sub> H <sub>2</sub> 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

|                                                                                                                       |                                           |
|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| 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:** 07/22/2026

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