### FLUOSILIC ACID

#### CAUTIONARY RESPONSE INFORMATION

<table>
<thead>
<tr>
<th>Common Synonyms</th>
<th>Liquid</th>
<th>Colorless</th>
<th>Sharp unpleasant odor</th>
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<tbody>
<tr>
<td>Fluorosilicic acid</td>
<td>Sinks and mixes with water.</td>
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<tr>
<td>Hydrofluoric acid</td>
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<tr>
<td>Hydrogen hexafluorosilicate</td>
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<td></td>
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<tr>
<td>Sand acid</td>
<td></td>
<td></td>
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<tr>
<td>Silicic acid</td>
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</table>

Keep people away. Avoid contact with liquid and vapor. Avoid inhalation. Notify local health and pollution control agencies. Protect water intakes. Exposure CALL FOR MEDICAL AID.

**VAPOR**
- Irritating to eyes, nose and throat.
- If inhaled will cause coughing or difficult breathing.
- If in eyes, hold eyelids open and flush with plenty of water.
- If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.

**LIQUID**
- Will burn skin and eyes.
- If swallowed will cause nausea.
- Remove contaminated clothing and shoes.
- Flush affected areas with plenty of water.

Water Pollution Effect of low concentrations on aquatic life is unknown. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

### 1. CORRECTIVE RESPONSE ACTIONS

**Dilute and disperse**
- Chemical and Physical Treatment: Neutralize

### 2. CHEMICAL DESIGNATIONS

- **CG Compatibility Group**: Not listed.
- **Formule**: HF\(_2\)SiO\(_2\)
- **IMOM Designation**: 8/1778
- **DOT ID No.**: 1778
- **CAS Registry No.**: 1309-45-1
- **NAERS Guide No.**: 154
- **Standard Industrial Trade Classification**: 52236

### 3. HEALTH HAZARDS

- **Personal Protective Equipment**: Rubber gloves; safety glasses; protective clothing.

### 4. FIRE HAZARDS

- **Flash Point**: Not flammable
- **Flammable Limits in Air**: Not flammable
- **Fire Extinguishing Agents**: Not pertinent
- **Fire Extinguishing Agents Not to Be Used**: Not pertinent
- **Special Hazards of Combustion**: Products: Irritating fumes of hydrogen fluoride may form in fire.
- **Behavior in Fire**: Not pertinent
- **Auto Ignition Temperature**: Not pertinent
- **Electrical Hazards**: Not pertinent
- **Burning Rate**: Not pertinent
- **Atmospheric Flame Temperature**: Currently not available
- **Stoichiometric Air to Fuel Ratio**: Not pertinent
- **Flame Temperature**: Currently not available
- **Combustion Molar Ratio (Reactant to Product)**: Not pertinent
- **Minimum Oxygen Concentration for Combustion**: (MOOC): Not listed

### 5. CHEMICAL REACTIVITY

- **Reactivity with Water**: No reaction
- **Reactivity with Common Materials**: Will corrode most metals, producing corrosive hydrogen gas, which may collect in enclosed spaces.
- **Stability During Transport**: Stable
- **Neutralizing Agents for Acids and Bases**: Flush with water, rinse with dilute solution of sodium carbonate or soda ash.
- **Polymerization**: Not pertinent
- **Inhibitor of Polymerization**: Not pertinent

### 6. WATER POLLUTION

- **Aqueous Toxicity**: Currently not available
- **Waterflow Toxicity**: Currently not available
- **Biological Oxygen Demand (BOD)**: None
- **Food Chain Concentration Potential**: None
- **GESAMP Hazard Profile**: Bioaccumulation: 0
- **Damage to living resources**: 0
- **Human Oral hazard**: 0
- **Human Contact hazard**: 0
- **Reduction of amenities**: XXX

### 7. SHIPPING INFORMATION

- **Grades of Purity**: 22-30% solutions in water
- **Storage Temperature**: Ambient
- **Inert Atmosphere**: No requirement
- **Venting**: Open
- **IMO Pollution Category**: Currently not available
- **Ship Type**: Currently not available
- **Barge Hull Type**: Currently not available

### 8. HAZARD CLASSIFICATIONS

- **49 CFR Category**: Corrosive material
- **49 CFR Class**: 8
- **49 CFR Package Group**: II
- **Marine Pollutant**: No
- **NFPA Hazard Classification**: Not listed
- **EPA Reportable Quantity**: Not listed
- **EPA Pollution Category**: Not listed
- **RCRA Waste Number**: Not listed
- **EPA FWPCA List**: Not listed

### 9. PHYSICAL & CHEMICAL PROPERTIES

- **Physical State at 15°C and 1 atm**: Liquid
- **Molecular Weight**: 144.09 (solute only)
- **Boiling Point at 1 atm**: -212°F = -150°C = -253°K
- **Freezing Point**: Typical: -24 to -4°F = -31 to -20°C = 242 to 253°K
- **Critical Temperature**: Not pertinent
- **Critical Pressure**: Not pertinent
- **Critical Pressure**: Not pertinent
- **Specific Gravity**: (approx.) 1.3 at 25°C liquid
- **Liquid Surface Tension**: Not pertinent
- **Liquid Water Interfacial Tension**: Not pertinent
- **Vapor (Gas) Specific Gravity**: Not pertinent
- **Ratio of Specific Heats of Vapor (Gas)**: Not pertinent
- **Latent Heat of Vaporization**: Not pertinent
- **Heat of Combustion**: Not pertinent
- **Heat of Decomposition**: Not pertinent
- **Heat of Solution**: Not pertinent
- **Heat of Polymerization**: Not pertinent
- **Heat of Fusion**: Currently not available
- **Limiting Value**: Currently not available
- **Reid Vapor Pressure**: Currently not available

### NOTES

- **JUNE 1999**
### Fluosilicic Acid Properties

<table>
<thead>
<tr>
<th>9.20</th>
<th>9.21</th>
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<tbody>
<tr>
<td>SATURATED LIQUID DENSITY</td>
<td>LIQUID HEAT CAPACITY</td>
<td>LIQUID THERMAL CONDUCTIVITY</td>
<td>LIQUID VISCOSITY</td>
</tr>
<tr>
<td><strong>Temperature (degrees F)</strong></td>
<td><strong>Pounds per cubic foot</strong></td>
<td><strong>Temperature (degrees F)</strong></td>
<td><strong>British thermal unit per pound-F</strong></td>
</tr>
<tr>
<td>77</td>
<td>81.150</td>
<td>NOT</td>
<td>NOT</td>
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<tr>
<td>SOLUBILITY IN WATER</td>
<td>SATURATED VAPOR PRESSURE</td>
<td>SATURATED VAPOR DENSITY</td>
<td>IDEAL GAS HEAT CAPACITY</td>
</tr>
<tr>
<td><strong>Temperature (degrees F)</strong></td>
<td><strong>Pounds per 100 pounds of water</strong></td>
<td><strong>Temperature (degrees F)</strong></td>
<td><strong>Pounds per square inch</strong></td>
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