

# Material Safety Data Sheet

Issue Date: 01-Aug-2014

## Hydrofluorosilicic Acid

### **Section 1: Product and Company Information**

Product Name: Hydrofluorosilicic acid

Chemical Name: Hexafluorosilicic acid

Supplier: IFFCO Paradeep unit  
Musadia Village, Paradeep (P.O.)  
Jagatsinghpur (dt.) – Odisha -754142  
India

Contact No. : (+91) 06722228201

### **Section 2: Hazards Identification**

#### **Inhalation**

Irritating to nose, throat, and respiratory system. May be corrosive to respiratory system with prolonged contact. Symptoms of exposure may include burning sensation, coughing, wheezing, and laryngitis, shortness of breath, headache, nausea and vomiting.

#### **Skin Contact / Absorption**

May cause irritation, redness or swelling with contact.

#### **Eye Contact**

Contact may cause severe irritation, watering, redness and swelling.

#### **Ingestion**

May cause nausea, vomiting, abdominal pain and burns if ingested.

#### **Exposure Limits**

ACGIH-TLV: 2.5mg/m<sup>3</sup> (as F), OSHA-PEL: 2.5mg/m<sup>3</sup> (as F)

### **Section 3: Composition/Information on Ingredients**

Ingredient: H<sub>2</sub>SiF<sub>6</sub> (18-21%,) Rest water

CAS # 16961-83-4

### **Section 4: First Aid Measures**

### **Inhalation**

Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention if difficulties persist.

### **Skin Contact / Absorption**

Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.

### **Eye Contact**

Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.

### **Ingestion**

Do not induce vomiting. Give large amounts of water. Do not give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention.

### **Additional Information**

Beware of late onset pulmonary edema for up to 48 hours. Treat severe burns as per hydrofluoric acid exposure with a calcium gluconate jelly.

## **Section 5: Fire Fighting Measures**

<b>Conditions of Flammability</b>	:	Non-flammable
<b>Means of Extinction</b>	:	Product does not burn. Where fire is involved, use any fire fighting agent appropriate for surrounding material; use water spray to cool fire-exposed surfaces.
<b>Flash Point</b>	:	Not Applicable
<b>Auto-ignition Temperature</b>	:	Not Applicable
<b>Upper Flammable Limit</b>	:	Not Applicable
<b>Lower Flammable Limit</b>	:	Not Applicable
<b>Hazardous Combustible Products</b>	:	Corrosive fumes of hydrogen fluoride and silicon tetrafluoride will occur when decomposition occurs 105°C.
<b>Special Fire Fighting Procedures</b>	:	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
<b>Explosion Hazards</b>	:	Not Available

## **Section 6: Accidental Release Measures**

### **Leak / Spill**

Wear appropriate personal protective equipment. Ventilate area. Stop or reduce leak if safe to do so. Prevent material from entering sewers and surface water. Dike spill area with sand or earth.

### **Deactivating Materials**

Small spills can be neutralized with hydrated lime.

## **Section 7: Handling and Storage**

### **Handling Procedures**

Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.

### **Storage Requirements**

Store in a cool, dry, well-ventilated place. Keep container tightly closed and away from incompatible materials. Do not store in glass or stoneware. Most metals are incompatible so avoid contact.

## **Section 8: Exposure Controls/Personal Protection**

### **Eyes**

Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.

### **Respiratory**

A NIOSH approved cartridge respirator with full-face shield. Chemical cartridge should provide protection against acid fumes (hydrogen fluoride). For concentrations greater than 20ppm, a NIOSH approved self-contained breathing apparatus with full-face shield should be used.

### **Gloves**

Impervious gloves of chemically resistant material (rubber or neoprene) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

### **Clothing**

Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

### **Footwear**

Impervious boots of chemically resistant material should be worn at all times.

## **Section 9: Physical and Chemical Properties**

<b>Physical State</b>	:	Liquid
<b>Odor and Appearance</b>	:	Colourless to pale yellow liquid with a pungent
<b>Specific Gravity (Water=1)</b>	:	1.234 at 15.6 <sup>0</sup> C and 24% concentration
<b>Vapor Pressure (mm Hg, 20C)</b>	:	218 at 75°C
<b>Boiling Point</b>	:	105°C
<b>Freeze/Melting Point</b>	:	-15°C
<b>pH</b>	:	Approximately 1.0
<b>Solubility in Water</b>	:	Completely miscible.
<b>Molecular Formula</b>	:	H <sub>2</sub> SiF <sub>6</sub>
<b>Molecular Weight</b>	:	144.08

## **Section 10: Stability and Reactivity**

**Stability:** Stable under normal conditions.

**Incompatibility:**

Metals, glass, alkali, ceramics, and strong concentrated acids. Strong concentrated acids will cause the liberation of poisonous hydrogen fluoride. Hydrofluorosilicic acid will attack glass and ceramics. Metals will be corroded and liberate hydrogen gas.

**Hazardous Products of Decomposition:**

Stable at room temperature. Attacks glass and stoneware. Decomposes to form hydrogen fluoride and silicon tetrafluoride when heated. Heat is generated when product is added to water.

**Polymerization:** Will not occur.

## **Section 11: Toxicological Information**

<b>Irritancy</b>	:	Product is corrosive.
<b>Sensitization</b>	:	Not Available
<b>Chronic/Acute Effects</b>	:	Liquid or vapors can cause burns which may not be apparent for hours. Prolonged exposure can result in: bone changes; corrosive effect on mucous membranes; ulceration of nose, throat, and bronchial tubes; cough, shock, pulmonary edema, fluorosis, coma, and death.

**Synergistic Materials** : Not Available  
**Animal Toxicity Data** : LD50 (oral, guinea pig): 200mg/kg

### **Section 12: Ecological Information**

**Fish Toxicity** : Not Available  
**Biodegradability** : Not Available  
**Environmental Effects** : Not Available

### **Section 13: Disposal Considerations**

As per the local regulations for proper disposal of this material.

### **Section 14: Transport Information**

Motor Vehicles Act 1988

### **Section 15: Regulatory Information**

Manufacture storage and import of hazardous chemicals (MSIHC) rules, 1989.

### **Section 16: Other Information**

**References:** Not available.

**Other Special Considerations:** Not available.

**Created:** 01/07/2014

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