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NAPCO CHEMICAL COMPANY, INC.

Water and Wastewater Treatment Chemicals * Feed Systems * Test Kits

P.O. Box 1239 Spring, TX 77383-1239 * (281)651-6800 * 1 (800) 929-5976

Material Safety Data Sheet

1. PRODUCT IDENTIFICATION

Product Name: Hydrofluorosilicic Acid

Synonyms: HFS, Hexafluorosilicic Acid, Fluorosilicic Acid

Distributed By: NAPCO Chemical Company, Inc.
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Spring, TX 77383

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Emergency Contact: CHEMTREC (24 Hrs) at 1 (800) 424-9300
United States, Canada, Puerto Rico, and Virgin Islands

Physical Description: Light yellow to amber liquid

2. HAZARD IDENTIFICATION

Emergency Overview:

DANGER!

Causes severe skin burns and eye damage.

Harmful if swallowed.

3. PRODUCT INGREDIENTS

Components	Percent (%)
Hydrofluorosilicic Acid	20-25
CAS Number: 16961-83-4	

4. FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with water for at least 15 minutes. Hold eyelids open to ensure adequate flushing. Get immediate medical attention.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected skin area with soap and water. Delayed skin damage is possible if product is not completely washed off. Get immediate medical attention.
Inhalation:	Remove to fresh air. Get immediate medical attention.
Ingestion:	If ingested, dilute swallowed material by drinking water. DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Other Instructions:	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

5. FIRE-FIGHTING MEASURES

Flash Point:	Not applicable
Auto ignition Temperature:	Not applicable
Flammable Limits, in Air:	
LEL (%)	Not applicable
UEL (%)	Not applicable
Extinguishing Media:	Dry chemical, foam, water, or carbon dioxide
Special Fire Fighting Procedure:	In the event of a fire, wear NIOSH approved, positive pressure, self-contained breathing apparatus (SCBA) and full protective clothing. Evacuate all non-essential personnel from the danger area.
Unusual Fire and Explosion Hazards:	Fluorosilicic Acid is not flammable, however when heated to decomposition highly toxic fumes may be generated. May generate Hydrogen gas.
Hazardous Combustion Products:	Hydrogen fluoride, silicon oxides and hydrogen gas.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Evacuate personnel to safe areas. Wear appropriate PPE during all cleanup activities. Avoid breathing vapors, mist or gas. Avoid direct contact with spilled material.
Environmental Precautions:	Keep spilled material away from sewage/drainage systems and waterways. This product contains a U.S. EPA Reportable Quantity (RQ) substance. If amounts exceeding the Reportable Quantity are released, notification of the National Response Center is required (800)424-8802. See section 15.

Methods for clean-up: All cleanup personnel must be properly trained. Confine the spill and stop the leak if it can be done without risk. Neutralize acid spill using sodium carbonate or a mixture of soda ash and slaked lime. Absorb material with vermiculite or inert absorbent material. Collect material in DOT approved containers and dispose of properly. For large spills, transfer materials to appropriate containers for reclamation or disposal. Prevent material from entering waterways and sewers.

7. HANDLING AND STORAGE

Handling: Use with adequate ventilation. Wear proper PPE. Avoid contact with eyes skin and clothing. Maintain proper hygiene practices when handling this material.

Storage: Store in closed, properly labeled containers. Protect from heat, physical damage, ignition sources and incompatible materials. Avoid using glass, metal or ceramic tanks. Large tanks should have adequate retention areas.

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

Eye Protection: Wear chemical splash goggles or face shield.

Skin Protection: Minimize contact with product. Wear chemical resistant coveralls, boots, gloves, apron and/or suitable long sleeve clothing. Fluorosilicic acid may react with some types of fire resistant clothing to generate heat. Consult PPE manufacturer for chemical resistance information.

Respiratory Protection: An industrial hygiene risk assessment is required to determine the appropriate respiratory protection. A NIOSH approved full-face, air-purifying cartridge respirator may be appropriate under limited exposure conditions. Wear an approved supplied air respirator if there is a potential for an uncontrolled release, exposure levels are not known, or in other circumstances where air-purifying respirators may not provide adequate protection.

Engineering Controls: Ensure adequate ventilation. Emergency eyewash and safety shower facilities should be available in the immediate work area.

Required Work/ Hygiene Procedure: Wash hands thoroughly after handling. Do not eat, drink or smoke in work area. If unusual exposures are expected, an industrial hygiene review of work practices, engineering controls and PPE is recommended.

Exposure Guidelines:

Hydrofluorosilicic Acid	20-25%
OSHA PEL-TWA:	2.5 mg/m ³ as Fluoride
ACGIH TLV-Ceiling:	2.5 mg/m ³ as Fluoride

9. PHYSICAL PROPERTIES

Physical Form:	Liquid
Color:	Yellow to amber
Odor:	Pungent
Molecular Weight:	144.11 g/mol (H ₂ F ₆ Si)
Boiling Point:	222 °F (105.5 °C)
Freezing Point:	Not Applicable
Solubility in Water:	Soluble
Specific Gravity:	1.18
Vapor Density:	Not Applicable
Evaporation Rate:	No Data Available
Vapor Pressure:	Not Applicable
% Volatile:	No Data Available
pH:	1.2

The physical data included above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions.
Conditions to Avoid:	Avoid all heat sources. Avoid contact with metals, stoneware, alkalis, explosives, readily oxidizable materials and organic peroxides.
Hazardous Decomposition:	Extreme temperatures may cause formation of highly toxic and corrosive fumes hydrogen fluoride, silicon oxides and hydrogen gas.
Hazardous Polymerization:	Not expected to occur.

11. TOXICOLOGY INFORMATION

Primary Exposure:	Eye, skin contact, inhalation and ingestion
Potential Health Effects:	
Eye Contact:	Causes severe eye damage
Skin Contact:	Causes skin burns. Onset of symptoms may be delayed following exposure.
Inhalation:	Corrosive to respiratory tract.
Ingestion:	May be Harmful if swallowed. Ingestion may cause chemical burns, pain, vomiting, difficulty breathing and other gastrointestinal effects.
Carcinogenicity:	The components of this product are not classified as carcinogenic by OSHA, NTP, or IARC.
Medical Concerns:	Asthma, other respiratory conditions and skin disorders may be aggravated by overexposure.

Toxicological Data:**Hydrofluorosilicic Acid****16961-83-4**

Oral LD50 (Guinea Pig): 200 mg/kg

Dermal LD50 (Frog): 140 mg/kg

12. ECOLOGICAL INFORMATION**Ecotoxicity:** No data available**Biodegradability:** No data available**13. DISPOSAL CONSIDERATIONS**

Disposal Method: This product must be disposed of in accordance with Federal, state and local environmental regulations. Discarded materials may be considered hazardous waste due to pH and corrosively.

It is the responsibility of the product user to determine at the time of disposal whether a material containing, or derived from, this product should be classified as hazardous waste.

14. TRANSPORTATION INFORMATION**Proper Shipping Name:** Fluorosilicic Acid**Hazard Label:** Corrosive**Hazard Class:** 8**UN/NA Number:** UN 1778**Packing Group:** II**EPA Reportable
Quantity (RQ)** No data available**Marine Pollutant:** No**Emergency Response
Guide:** 154**15. REGULATORY INFORMATION****U.N. GHS Classification & Labeling Information****Classification:**

Acute toxicity, Oral (Category 4)
Skin corrosion (Category 1B)
Serious eye damage (Category 1)

Signal Word Danger**H Statements:****H302:** Harmful if swallowed.**H314** Causes severe skin burns and eye damage.

P Statements:

P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338: IF IN EYES: Rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor/physician.

NFPA 704 Information:

Health Rating: 3
Flammability Rating: 0
Reactivity Rating: 0
Other Hazards: Corrosive

U.S. Federal Regulatory Information:

EPA Clean Air Act: Not Listed
EPA Clean Water Act: Listed
EPA FIFRA: No data available
TSCA: The ingredients of this product are listed on TSCA inventory (40 CFR 710)
RCRA: Not Regulated
CERCLA RQ: Not regulated
SARA Title III § 302: None
SARA Title III § 311/312: Acute Health Hazard
SARA Title III § 313: Not listed

16. OTHER INFORMATION

All information appearing herein is based up data obtained from the manufacturer and/or recognized technical sources.

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