

DUMONT

Material Safety Data Sheet

Provided by:
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I. Chemical Product Identification

Product Name: HFS 4000 **CAS Number:** 1691-83-4
Synonyms: Hydrofluorosilicic Acid; Fluosilicic Acid; HFS
Chemical Name: Hydrofluosilicic Acid
Emergency Phone: 800 330 1369 **Date of Issue:** 10/01/2006
Revised Date: 01/25/2008

II. Composition

Components	Percent	TLV-TWA
Hydrofluosilicic Acid	38 – 42%	*2.5 mg/m3
*Exposure Limit for Fluorides, as F		

III. Health Hazards

Eye Contact: Causes severe irritation and burns. Liquid or vapor may cause permanent eye damage. Effects may be delayed.

Skin Contact: Causes severe irritation and burns. Contact may cause permanent skin damage. Effects may be delayed.

Inhalation: Causes severe irritation and burns. May irritate or burn nose, throat and respiratory tract. May cause coughing, difficulty breathing, chemical pneumonitis or pulmonary edema. Inhalation of high concentrations may cause hypocalcemia (lowering of serum calcium), nervous problems (tetany) or cardiac arrhythmia (heart irregularity). Prolonged or repeated contact may cause sore throat, nose bleeds, chronic bronchitis, emphysema or erosion of teeth. Effects may be delayed

Ingestion: Causes severe irritation and burns. May irritate or burn mouth, throat and digestive tract. May cause nausea, vomiting, bloody diarrhea, abdominal cramps, perforation of the digestive tract, coughing, difficulty in breathing, shock, pulmonary edema, suffocation, convulsions, unconsciousness, coma or cardiopulmonary arrest. Effects may be delayed.

Carcinogenicity: Not listed by NTP, IARC, or OSHA.

IV. First Aid Procedures

Eye Contact:	Immediately flush eyes with water for at least 20 minutes. Get immediate medical attention.
Skin Contact:	Immediately flush skin with water for at least 20 minutes while removing contaminated clothing and shoes. Get immediate medical attention.
Inhalation:	Move victim to fresh air. Call emergency medical service. If breathing is difficult, administer oxygen. Give artificial respiration if victim is not breathing.
Ingestion:	If fully conscious, drink a quart of water. DO NOT induce vomiting. CALL A PHYSICIAN IMMEDIATELY. If unconscious or in convulsions, take immediately to a hospital or a physician. NEVER induce vomiting or give anything by mouth to an unconscious victim. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. If available, give several glasses of milk

V. Personal Protection Information

Respiratory Protection:	Wear NIOSH approved mist respirators.
Ventilation:	General room ventilation and local exhaust are required. Maintain adequate ventilation. Do not use in closed or confined spaces. Avoid creating dust or mist.
Skin Protection:	Wear acid-proof rubber gloves and protective clothing depending on condition of use.
Eye/Face Protection:	Wear chemical safety goggles and a full face shield while handling this product. Do not wear contact lenses.
Other Protection:	Eye bath and safety shower.
Work Practices:	Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing and wash thoroughly before reuse. Shower after work using plenty of soap and water.

VI. Fire and Explosion Hazard

Flash Point Method:	>200 F TOC	LEL: N/A
Flammable Limit:	N/A	UEL: N/A
Extinguishing Media:	Dry Chemical, foam and CO2	
Special Fire Fighting Procedures:	A self-contained breathing apparatus should be worn by fire fighting personnel.	

VII. Measures for Accidental Release

In case of release or spill:	Shut off source of leak if safe to do so. Evacuate unprotected personnel from area. Maintain adequate ventilation. Dike area to contain spill if possible. Place into drums for proper disposal. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to containers. Flush remaining area with water and neutralize with Soda Ash or Lime and dispose of properly. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs. Prevent entry into basements, low areas, or confined areas.
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VIII. Handling and Storage

Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. Use non-sparking tools.

Storage: CORROSIVE MATERIAL. Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Highly corrosive to most metals with evolution of hydrogen gas. Do not freeze. Do not store in glass or stoneware.

IX. Physical Data

Boiling Point (°C)	>100C(decomposes)	Vapor Pressure (mmHG):	24
Solubility (H2O):	Complete	Vapor Density (Air-1):	N/A
pH:	<2.0	Specific Gravity (H2O=1):	1.38-1.42
Appearance/Odor:	Clear, pungent liquid	Evaporation Rate:	N/A

X. Reactivity

Stability:	Stable under normal conditions
Incompatibility:	Metals, Alkalies, Strong concentrated acids, Strong oxidizing agents, Glass Stoneware, Ceramic.
Decomposition/Byproducts:	At elevated temperatures, product will decompose generating Hydrogen gas, Hydrogen fluoride and Silicon tetrafluoride. Toxic and corrosive fumes of fluorides.
Hazardous Reaction:	Hazardous polymerization will not occur under normal conditions. May react with certain metals to produce flammable hydrogen gas. Explosive mixtures in contact with alkaline materials (Na, K, Li).
Conditions to Avoid:	Reacts with water or humid air to form dangerous gas/vapors. Avoid heating the product to its decomposition temperature.

XI. Toxicity Information

LD50 Oral:	Rat: 430mg/kg
LD50 Skin:	No Data
LC50 Inhalation:	Rat: 850 to 1070 ppm/1H

XII. Ecological Information

Ecotoxicological Information:	No Data Available
Chemical Fate Information:	No Data Available

Toxic effect in fish and plankton. Potential exists for bioaccumulation in aquatic organisms. Prevent from entering surface water, wastewater and soil.

XIII. Waste Disposal Method

Dispose of waste according to all Federal, State and local regulations.

XIV. Transport Method

USA Dot Shipping Name: Fluorosilicic Acid
Hazard Class: 8
UN/NA Number: UN1778
Packing Group: II
DOT Label Required: Corrosive
Marine Pollutant: N/A

XV. Regulatory Information

CERCLA RQ (lbs): N/A
SARA Title III Section 311/312: Category
 Acute Y Chronic N Flammable N Sudden Release of Pressure N Reactive N
SARA Title III Section 313: N/A
SARA Extremely Hazardous Substance: N/A

HMIS Hazard Rating

Health: 3	Fire: 0	Reactivity: 1
0-Least 1-Slight	2-Moderate 3-High	4-Extreme

XVI. Other Information

UL Maximum Use Level for Potable Water (Standard 60): 3.4 mg/L
TSCA (Toxic Substance Control Act), 40 CFR 710: N/A
 Sources of the raw materials used in this mixture assure that all chemical ingredients present are in compliance with Section 8(b) Chemical Substance Inventory, or are otherwise in compliance with TSCA.

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