

## Safety Data Sheet

### HEXAFLUOROTITANIC ACID

SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION		
<b>Product Name</b>	Fluotitanic Acid	
<b>Product Code</b>	845 001	
<b>Other/Generic Names</b>	Fluorotitanic Acid Hydrofluorotitanic Acid Hexafluorotitanic Acid Hexafluorotitanium Acid	
<b>Product Use</b>	Industrial , Laboratory Chemicals, Manufacture of substances	
<b>Contact Information</b>	<b>OFFICE :</b> Madras Fluorine Private Ltd No.71, 4 <sup>th</sup> Main Road Gandhi Nagar, Adyar Chennai 600 020, India E-mail : <a href="mailto:exim@mfpflfluorine.com">exim@mfpflfluorine.com</a>	<b>FACTORY</b> Madras Fluorine Private Ltd Express Highway Manali Chennai – 600 068, India
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### SECTION 2 : HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Corrosive to metals (Category 1), H290  
 Acute toxicity, Oral (Category 3), H301  
 Acute toxicity, Inhalation (Category 3), H331  
 Acute toxicity, Dermal (Category 3), H311  
 Skin corrosion (Category 1A), H314

#### Label elements

#### Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger



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### Hazard statement(s)

H290	May be corrosive to metals.
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled
H314	Causes severe skin burns and eye damage.

### Precautionary statement(s)

P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
Supplemental Hazard Statements	none

### Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3 : COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	Cas No.	% Wt
Fluotitanic Acid	17439-11-1	45-65
Water	7732-18-5	35-55
Hydrofluoric Acid	7664-39-3	0-2

Trace impurities and additional material names not listed above may also appear in Section 15 towards the end of the MSDS. These materials may be listed for local "Right-to-Know" compliance and for other reasons.

**OSHA Hazard Communication Standard:** *This product is considered hazardous under the OSHA Hazard Communication Standard*

#### **SECTION 4 : FIRST AID MEASURES**

**Skin:** Remove victim from the contaminated area and immediately wash the burned area with plenty of water for a minimum of 15 minutes. Limit washing to 5 minutes if definitive medical treatment is available. Remove all contaminated clothing while washing continuously. After thorough washing for at least 5 minutes, the burned area should be immersed in a solution of 0.13 % iced aqueous Zephiran® Chloride until pain is relieved. As an alternate first aid treatment, 2.5 % calcium gluconate gel may be continuously massaged into the burn area until the pain is relieved. For larger burns or burns treated with calcium gluconate gel (in which pain is present for more than 30 minutes), a physician should inject 5% aqueous calcium gluconate beneath, around and in the burned area. Use of local anesthetics is not recommended, as reduction in pain is an indicator of effectiveness of treatment.

**Eyes:** Irrigate eyes for at least 15 minutes with copious quantities of water, keeping eyelids apart and away from eyeballs during irrigation. Get immediate competent medical attention, preferably an eye specialist. If a physician is not immediately available, apply one or two drops of 0.5 % Pontocaine® Hydrochloride solution followed by a second irrigation for 15 minutes. Do not use the solution described for skin care treatment. Use no oils or greases unless instructed to do so by a physician. Irrigate with 1 % calcium gluconate in normal saline for 1 to 2 hours to prevent or lessen corneal damage.

**Inhalation:** Remove victim to fresh air. Get immediate medical attention. If breathing has stopped, apply artificial respiration. If breathing is difficult, give oxygen, provided a qualified operator is available. Do not give stimulant unless instructed to do so by a physician. Victim should be examined by a physician and held under observation for at least 24 hours. Calcium gluconate, 2.5 %, may be given by nebulizer with oxygen.

**Ingestion:** If person is conscious, rinse mouth with water. Give large amounts of water to dilute stomach contents. Several glasses of milk or several ounces of milk of magnesia may be given for their soothing effect. Do not induce vomiting. Get immediate medical attention.

**Advice To Physician:** For burns of large skin areas (greater than 25 square inches), for ingestion and for significant inhalation exposure, severe systemic effects may occur. Monitor and correct for hypocalcemia, cardiac arrhythmias, hypomagnesemia and hyperkalemia. In some cases renal dialysis may be indicated. For certain burns, especially of the digits, use of intra-arterial calcium gluconate may be indicated. For inhalation exposures, treat as chemical pneumonia. Monitor for hypocalcemia. 2.5 % calcium gluconate in normal saline nebulizer or by IPPB with 100% oxygen may decrease pulmonary damage bronchodilators may also be administered.



**SECTION 5 : FIRE- FIGHTING MEASURES**

**Flammable Properties**

**Flash Point:** Not applicable

**Flash Point Method:** Not applicable

**Autoignition Temperature:** Not applicable

**Upper Flame Limit (volume % in air)** Not applicable

**Lower Flame Limit (volume % in air)** Not applicable

**Flame Propagation Rate (solids)** Not applicable

**Osha Flammability Class:** Not flammable

**Extinguishing Media:** Water spray, foam, carbon dioxide, or dry chemical.

**Unusual Fire And Explosion Hazards:** Emits toxic and corrosive fumes under fire conditions.

**Special Fire Fighting Precautions/Instructions:** Use self-contained breathing apparatus and full protective clothing.

**SECTION 6 : ACCIDENTAL RELEASE MEASURES**

**IN CASE OF SPILL OR OTHER RELEASE:**

(Always wear recommended personal protective equipment.) Provide ventilation to spill area. Those treating spills or repairing leaks must use full protective equipment. Fully protected personnel should cautiously dilute small spills or leaks with plenty of water. Carefully neutralize the dilute liquid with caustic soda, lime or other alkaline material. Absorb with inert absorbent and place in an approved, labeled, chemical waste container. Do not allow to enter into sewers or waterways.

**Spills and releases may have to be reported to Federal and/or local authorities. See section 15 regarding reporting requirements.**

**SECTION 7 : HANDLING AND STORAGE**

**Normal Handling:**

(Always wear recommended personal protective equipment.) Do not breathe vapor or mist. Use with adequate ventilation. Avoid all contact with skin, eyes and clothing. Wash hands before breaks and after work. Do not eat or drink in the work area.

**Storage Recommendations:**

Store in approved containers in a cool, dry, well ventilated area. Keep containers upright and tightly closed. Protect containers from physical damage.



**SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering Controls:**

Ensure adequate ventilation. Use local ventilation at product handling or transfer points.

**Personal Protective Equipment Skin Protection:**

For routine product use, wear acid-resistant jacket, trousers, and gauntlet gloves. For increased protection, use air-supplied totally encapsulating chemical protective suit.

**Eye Protection:**

As a minimum, wear chemical safety goggles and full-face plastic shield. For increased protection, use air-supplied acid hood.

**Respiratory Protection :**

Not required for properly ventilated areas. If there is potential for inhalation of vapor or mist, use an appropriate NIOSH approved respirator. The respirator must be selected based on contamination levels and use conditions found in the workplace, must not exceed the working limits of the respirator and be approved by the National institute for Occupational Safety and Health (NIOSH) and used in accordance with Occupational Safety and Health Administration. (OSHA) 29 CFR 1910.134

**Additional Recommendations**

Safety showers and eyewash in close proximity to working area.

**Exposure Guidelines:**

Ingredient Name	Acgih Tlv	Osha Pel	Other Limit
Fluorides (as F)	2.5 mg/m <sup>3</sup> TWA	2.5 mg/m <sup>3</sup> TWA	None
Hydrofluoric Acid	3 ppm- ceiling	3 ppm TWA	10 mg (F)/gm
6 ppm (15 Min.) STEL createine post-shift***			

<sup>1</sup> = Limit established by AWSM Industries.  
<sup>2</sup> = Workplace Environmental Exposure Level (AIHA).  
<sup>3</sup> = Biological Exposure Index (ACGIH).

**Other Exposure Limits For Potential Decomposition Products:**

None

**SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	Colorless
<b>Physical State</b>	Liquid
<b>Molecular Weight</b>	164
<b>Chemical Formula</b>	H <sub>2</sub> TiF <sub>6</sub>
<b>Odor</b>	Slight odor



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<b>Specific Gravity (H<sub>2</sub>O = 1)</b>	50%: Density = 1.51 – 1.52 gm/cc
<b>Solubility In Water (weight %)</b>	Miscible
<b>pH</b>	<1 ( Acidic )
<b>Boiling Point</b>	>212°F (100°C) @ 1013 hPa.
<b>Melting Point</b>	Not determined.
<b>Vapor Pressure</b>	Not determined.
<b>Vapor Density (air= 1.0)</b>	Not determined.
<b>Evaporation Rate</b>	Not determined.
<b>Compared To</b>	Not Applicable
<b>% Volatiles</b>	Not determined.
<b>Flash Point</b>	Not flammable.
(Flash point method and additional flammability data are found in Section 5.)	

## SECTION 10 : STABILITY AND REACTIVITY

**Normally Stable/ (Conditions To Avoid):** Stable under normal conditions.

**Incompatibilities:** Material attacks glass and silicate containing materials.

**Hazardous Decomposition Products:** Thermal decomposition may generate hydrogen fluoride.

**Hazardous Polymerization:** Will not occur.

## SECTION 11 : TOXICOLOGICAL INFORMATION

**Immediate (Acute) Effects:** Data not available for Fluotitanic Acid.

### Hydrogen Fluoride:

Inhalation (rat) LC50: 5,100 ppm/ 5 min.

Inhalation (rat) LC50: 1,300 ppm/ 60 min.

Skin: 2% solution of HF was corrosive to rabbit skin with 1 hour exposure, but not with 1 minute exposure.

0.5 % Solution of HF was corrosive to rabbit skin with 5 minute exposure.

### Delayed (Subchronic And Chronic Effects)

#### Hydrogen Fluoride:

Prolonged exposure can cause bone and joint changes in humans. Subchronic inhalation exposure to 10 ppm hydrogen fluoride (6 hr/day for 91 days) in rats caused non-specific progressive toxicity, characterized by general malaise, depressed diet and food consumption and loss of weight. Progressive emaciation was more severe in the males and severe enough to cause death in a few animals. No biologically significant changes were produced at 1.0 and 0.1 ppm.

**Other Data:** None.



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## SECTION 12 : ECOLOGICAL INFORMATION

Aquatic Toxicity (HF): 60 ppm\*/fish/lethal/fresh water. (\*time period not specified)

## SECTION 13 : DISPOSAL CONSIDERATIONS

### Waste treatment methods

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

### Contaminated packaging

Dispose of as unused product.

## SECTION 14 : TRANSPORT INFORMATION

**US DOT Hazard Class**

8, PG II

**US DOT ID Number**

UN 3264

**Proper Shipping Name**

Corrosive Liquid, Acidic, Inorganic, N.O.S. (Fluotitanic Acid)

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

## SECTION 15 : REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

### Safety, health and environmental regulations/legislation specific for the substance or mixture

### Chemical Safety Assessment

For this product a chemical safety assessment was not carried out



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## SECTION 16 : OTHER INFORMATION

**References:** Not available.

**Other Special Considerations:** Not available.

**Creation Date :** 18.09.2000

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