

**SmF3 Powder / Samarium Fluoride Powder 20um 99.99%**

**US Research Nanomaterials, Inc. [www.us-nano.com](http://www.us-nano.com)**

**SAFTY DATA SHEET**

**Revised Date 6/24/2022**

**1. PRODUCT AND COMPANY IDENTIFICATION**

**1.1 Product identifiers**

**Product name: SmF3 Powder / Samarium Fluoride Powder 20um 99.99%**

**Product Number : US8332**

**CAS Number: 13765-24-7**

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

**Identified uses : Research**

**1.3 Details of the supplier of the safety data sheet Company: US Research  
Nanomaterials, Inc.**

**3302 Twig Leaf Lane**

**Houston, TX 77084**

**USA**

**Telephone: +1 832-460-3661 Fax: +1 281-492-8628**

**1.4 Emergency telephone number**

**Emergency Phone # : (832) 359-7887**

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

**Acute toxicity, Oral (Category 3), H301**

**Acute toxicity, Inhalation (Category 3), H331**

**Acute toxicity, Dermal (Category 3), H311**

**For the full text of the H-Statements mentioned in this Section, see Section 16.**

### 2.2 GHS Label elements, including precautionary statements



**Pictogram**

**Signal word**

**Danger**

**Hazard statement(s)**

**H301 + H311 + H331: Toxic if swallowed, in contact with skin or if inhaled.**

**Precautionary statement(s)**

**P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.**

**P264: Wash skin thoroughly after handling.**

**P270: Do not eat, drink or smoke when using this product.**

**P271: Use only outdoors or in a well-ventilated area.**

**P280: Wear protective gloves/ protective clothing.**

**P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor.**

**P302 + P352: IF ON SKIN: Wash with plenty of soap and water.**

**P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.**

**P312: Call a POISON CENTER/doctor if you feel unwell.**

**P322: Specific measures (see supplemental first aid instructions on this label).**

**P330: Rinse mouth.**

**P361: Remove/Take off immediately all contaminated clothing.**

**P363: Wash contaminated clothing before reuse.**

**P403 + P233: Store in a well-ventilated place. Keep container tightly closed.**

**P405: Store locked up.**

**P501: Dispose of contents/ container to an approved waste disposal plant.**

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS**

**Contact with acids liberates very toxic gas.**

**Strong hydrogen fluoride-releaser**

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### **3.1 Substances**

**Formula: SmF<sub>3</sub>**

**Molecular Weight: 207.36 g/mol**

**CAS Number: 13765-24-7**

## **4. FIRST AID MEASURES**

### **4.1 Description of first aid measures**

#### **General advice**

**Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungual areas and should be considered when undergoing decontamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure.**

#### **If inhaled**

**If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.**

#### **In case of skin contact**

**Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician. First treatment with calcium gluconate paste.**

#### **In case of eye contact**

**Flush eyes with water as a precaution.**

#### **If swallowed**

**Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.**

#### **4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

#### **4.3 Indication of any immediate medical attention and special treatment needed**

no data available

### **5. FIREFIGHTING MEASURES**

#### **5.1 Extinguishing media**

Suitable extinguishing media

Dry Powder

#### **5.2 Special hazards arising from the substance or mixture**

**Hydrogen fluoride, Samarium Oxides**

#### **5.3 Advice for firefighters**

Wear self contained breathing apparatus for firefighting if necessary.

#### **5.4 Further information**

no data available

## **6. ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal precautions, protective equipment and emergency procedures**

**Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.**

### **6.2 Environmental precautions**

**Prevent further leakage or spillage if safe to do so. Do not let product enter drains.**

### **6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### **6.4 Reference to other sections**

For disposal see section 13.

## **7. HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

**Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. For precautions see section 2.2.**

### **7.2 Conditions for safe storage, including any incompatibilities**

Keep containers tightly closed in a dry, cool and well-ventilated place.

**Never allow product to get in contact with water during storage. Do not store near acids.**

**Do not store in glass**

**Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects**

### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1 Control parameters**

**AGGIH: no data available NIOSH: no data available OSHA: no data available**

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

**Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.**

#### **Personal protective equipment**

##### **Eye/face protection**

**Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).**

##### **Skin protection**

**For any handling steps where the substance is in particulate form or in a suspension with pure water where the substance is not solubilized, the gloves must be comprised of material that successfully passes ASTM F-1671. For any handling steps where the substance is part of a carrier liquid, other than the aqueous suspension noted in the previous paragraph, gloves must be comprised of material that successfully passes ASTM F-739 (continuous liquid contact method). Gloves must be changed before they show degradation and before the designated breakthrough time for the carrier liquid (as determined by the ASTM F-739 testing or by the manufacturer). Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.**

##### **Body Protection**

**impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.**

##### **Respiratory protection**

**The EPA mandates the use of full face respirators with minimum N100 grade cartridges if there is any risk of exposure to the dust. For nuisance exposures use type P95 (US) or type**

**P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).**

**Control of environmental exposure**

**Do not let product enter drains.**

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 Information on basic physical and chemical properties**

**a) Appearance: solid**

**b) Odour: Odorless**

**c) Odour Threshold:**

**d) pH: no data available**

**e) Melting point/freezing point: no data available**

**f) Initial boiling point and boiling range: no data available g) Flash point: No information available**

**h) Evaporation rate: no data available**

**i) OSHA Flammability Class: no data available**

**j) Upper/lower flammability or explosive limits: no data available k) Vapour pressure: no data available**

**l) Vapour density (air = 1): no data available**

**m) Relative density (water = 1): no data available**

**n) Water solubility: Insoluble in water**

**o) Partition coefficient - noctanol/water: no data available**

**p) Auto-ignition temperature: no data available**

**q) Decomposition temperature: no data available**

**r) Viscosity: no data available**

**s) Explosive properties: no data available**



t) **Molecular Weight: no data available**

## **9.2 Other safety information**

no data available

## **10. STABILITY AND REACTIVITY**

### **10.1 Reactivity**

None known, based on information available.

### **10.2 Chemical stability**

Stable under recommended storage conditions.

### **10.3 Possibility of hazardous reactions**

None under normal processing.

### **10.4 Conditions to avoid**

Avoid moisture. Reacts dangerously with glass.

### **10.5 Incompatible materials**

**Strong reducing agents, glass**

### **10.6 Hazardous decomposition products**

Other decomposition products - **Hydrogen fluoride, Samarium Oxides**

## **11. TOXICOLOGICAL INFORMATION**

### **11.1 Information on toxicological effects Acute toxicity**

**Not available**

**Skin corrosion/irritation**

**No information available**

**Serious eye damage/eye irritation**

**No information available**

**Respiratory or skin sensitisation**

**No information available**

**Germ cell mutagenicity**

**no data available**

**Carcinogenicity**

**Not listed**

**Reproductive toxicity**

**no data available**

**Specific target organ toxicity - single exposure**

**no data available**

**Specific target organ toxicity - repeated exposure**

**no data available**

**Aspiration hazard**

**Product may be an aspiration hazard**

**Additional Information**

**To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.**

## **12.ECOLOGICAL INFORMATION**

### **12.1 Ecotoxicity**

No information available

### **12.2 Persistence and degradability**

No information available

### **12.3 Bioaccumulative potential**

No information available

### **12.4 Mobility in soil**

no data available

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **12.6 Other adverse effects**

Do not allow product to enter surface waters, wastewater or soil.

## **13.DISPOSAL CONSIDERATIONS**

### **13.1 Waste treatment methods**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

## **14. TRANSPORT INFORMATION**

### **US DOT Information**

Shipping Name: **Toxic solid, inorganic, n.o.s. (Samarium trifluoride)**

UN/NA #: UN3288

Packing Group: III

### **IMDG Information**

Shipping Name: **Toxic solid, inorganic, n.o.s. (Samarium trifluoride)**

UN/NA #: UN3288

Packing Group: III

### **IATA Information**

Shipping Name: **Toxic solid, inorganic, n.o.s. (Samarium trifluoride)**

UN/NA #: UN3288

Packing Group: III

## **15. REGULATORY INFORMATION**

### **SARA 302 Components**

**SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.**

### **SARA 313 Components**

**SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the**

**threshold (De Minimis) reporting levels established by SARA Title III, Section 313.**

### **SARA 311/312 Hazards**

**Acute Health Hazard**

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**16.OTHER INFORMATION****Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.