

Material Safety Data Sheet  
Fluorine Doped Tin Oxide

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1. Product and Company Identification

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Trade Name: Fluorine doped tin oxide  
Chemical Formula:  $\text{SnO}_2\text{-SnF}_2$   
Recommended Use: Scientific research and development

Manufacturer/Supplier: ALB Materials Inc  
Street: 2360 Corporate Circle, Suite 400  
City: Henderson  
State: Nevada  
Zip Code: 89074-7739  
Country: USA  
Tel #: +1 702 983 3769

24-Hour Emergency Contact: 800-424-9300 (US & Canada)  
+1-703-527-3887 (International)

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2. Hazards Identification

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Signal Word: Warning



Hazard Statements: H315 Causes skin irritation  
H319 Causes serious eye irritation  
H305 May be harmful if swallowed and enters airways

Precautionary Statements: P261 Avoid breathing dust/fume/vapor  
P305+P351 If in eyes: Rinse cautiously with water for several minutes.

HMIS Health Ratings (0-4):

Health: 2  
Flammability: 0  
Physical: 1

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3. Composition

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Chemical Family: Ceramic  
Additional Names: Tin oxide tin fluoride, Tin oxide F doped

Tin oxide ( $\text{SnO}_2$ ):  
Percentage: Typically 90 wt%  
CAS #: 18282-10-5  
EC #: 242-159-0

Tin fluoride ( $\text{SnF}_2$ ):  
Percentage: Typically 10 wt%  
CAS #: 7783-47-3  
EC #: 231-999-3

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#### 4. First Aid Procedures

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General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion:	Give one to two glasses of water and induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

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#### 5. Fire and Explosion Hazards Data

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Flammability:	Non-flammable
Flash Point:	N/A
Autoignition Temperature:	N/A
Extinguishing Media:	No special restrictions – use suitable extinguishing agent for surrounding material and type of fire.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes.

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#### 6. Accidental Release Measures

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If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

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#### 7. Handling and Storage

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Handling Conditions:	Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

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#### 8. Exposure Controls and Personal Protection

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Permissible Exposure Limits:	2 mg/m <sup>3</sup> as Sn, long-term value
Threshold Limit Value:	2 mg/m <sup>3</sup> as Sn, long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator, NIOSH approved
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

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## 9. Physical and Chemical Characteristics

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Color	White to off white
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble, may hydrolyze slowly
Boiling Point:	N/A
Melting Point:	>1630 °C
Density:	N/A
Molecular weight:	N/A

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents, Alkalis
Incompatible Conditions:	None
Hazardous Decomposition Products:	Metal oxide fume, Hydrogen fluoride

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## 11. Toxicological Information

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Potential Health Effects:	
Eyes:	May cause serious irritation
Skin:	May cause irritation
Ingestion:	May cause burning effect
Inhalation:	May cause irritation
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	360 mg/kg for rat by mouth as SnF <sub>2</sub>
Carcinogen:	N/A

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## 12. Ecological Information

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Ecological data is not available.

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## 13. Disposal Considerations

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Dispose of in accordance with local, state, national, and international regulations.

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## 14. Transportation Data

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Hazardous: Hazardous for transportation as powder only



Hazard Class:	8 Corrosive substances
Packing Group:	III
UN Number:	UN3260
Proper Shipping Name:	Corrosive solid, acidic, inorganic, n.o.s. (Fluorine doped tin oxide)

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### 15. Regulatory Information

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Sec 302 Extremely Hazardous:	No
Sec 304 Reportable Quantities:	N/A
Sec 313 Toxic Chemicals:	No

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### 16. Other Information

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This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

Document Last Revised: 01/06/2022