

# SAFETY DATA SHEET

Version 8.1

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SDS No. Eternal-Element-ET-ScF-202501

Product Number Eternal-Element-ET-ScF-202501

## Scandium(III) fluoride

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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifiers

Product name : Scandium(III) fluoride

Product Number : ET-ScF-202501

Brand : Eternal-Element

CAS-No. : 13709-47-2

#### 1.2 Details of the supplier of the safety data sheet

Company : Shanghai Sheeny Metal Mateirals Co.,Ltd.  
Room 210, Kedi Building,  
No. 688 Huaijiang Road, Jiading District,  
SHANGHAI  
201800 SHANGHAI CHINA

上海斯年金属材料有限公司

上海市嘉定区华江公路688号凯迪大厦210室

邮政编码：201800

Telephone : +86 16602150044

Fax : +86 16602150044

#### 1.3 Emergency telephone

Emergency Phone # : +86 4006632276

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#### 1.4 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : For R&D use only. Not for pharmaceutical, household or other uses.

### SECTION 2: Hazards identification

#### Summary of emergency

powder Toxic if swallowed, in contact with skin or if inhaled. First aiders need to protect themselves., Show this material safety data sheet to the doctor in attendance. After inhalation: fresh air. Immediately call in physician., If breathing stops: immediately apply artificial respiration, if necessary also oxygen. In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower., Call a physician immediately. After eye contact: rinse out with plenty of water., Remove contact lenses. If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Not combustible. Ambient fire may liberate hazardous vapours. Generates dangerous gases or fumes in contact with:, Acids

#### 2.1 GHS Classification

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 Statements

H301 + H311 + H331

Toxic if swallowed, in contact with skin or if inhaled.

Precautionary Statements

Prevention

P261

Avoid breathing dust.

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.

Response

P301 + P310 + P330

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

Rinse mouth.

IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.

Storage

P403 + P233

Store in a well-ventilated place. Keep container tightly closed.

P405

Store locked up.

**Disposal**

P501

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

**Reduced Labeling (<= 125 ml)**

Pictogram



Signal Word

Danger

**Hazard Statements**

H301 + H311 + H331

Toxic if swallowed, in contact with skin or if inhaled.

**Precautionary Statements**

none

**2.3 Physical and chemical hazards**

Referring to current information, no physical or chemical hazard.

**2.4 Health hazards**

H301 Toxic if swallowed.

H331 Toxic if inhaled.

H311 Toxic in contact with skin.

**2.5 Environmental hazards**

Referring to current information, no environmental hazard.

**2.6 Other hazards**

Strong hydrogen fluoride-releaser

Contact with acids liberates very toxic gas.

Contact with acids liberates very toxic gas.

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**SECTION 3: Composition/information on ingredients**

Substance / Mixture : Substance

**3.1 Substances**Formula : F<sub>3</sub>Sc

Molecular weight : 101.95 g/mol

CAS-No. : 13709-47-2

EC-No. : 237-255-4

**Hazardous ingredients**

Component	Classification	Concentration
<b>Scandium trifluoride</b>	Acute toxicity Category 3; H301, H331, H311	<= 100 %

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

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### **General advice**

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### **If inhaled**

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

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

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

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

After eye contact: rinse out with plenty of water. Remove contact lenses.

#### **If swallowed**

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

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

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

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

No data available

### 4.4 Notes to physician

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### **Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

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

Hydrogen fluoride

Scandium oxide

Not combustible.

Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Work under hood. Do not inhale substance/mixture.

#### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

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

#### Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Store under argon. Handle under argon.

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Do not store near acids.

#### Storage class

Storage class (TRGS 510) : 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis

Scandium trifluoride	13709-47-2	PC-TWA	2 mg/m3	Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.
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**Biological occupational exposure limits**

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	13709-47-2	fluoride	42 Millimoles per mole creatinine	Urine	China. Biological Occupational Exposure Indices
Remarks	After shift				
		fluoride	7mg/g creatinine	Urine	China. Biological Occupational Exposure Indices
	After shift				
		fluoride	24 Millimoles per mole creatinine	Urine	China. Biological Occupational Exposure Indices
	Prior to shift				
		fluoride	4mg/g creatinine	Urine	China. Biological Occupational Exposure Indices
	Prior to shift				

**8.2 Exposure controls****Appropriate engineering controls**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

**Personal protective equipment****Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

**Skin protection**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

**Full contact**

Material : Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

**Splash contact**

Material : Nitrile rubber  
Minimum layer thickness: 0.11 mm  
Break through time: 480 min  
Material tested: KCL 741 Dermatril® L

**Body Protection**  
protective clothing

**Respiratory protection**

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

**Control of environmental exposure**

Do not let product enter drains.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a)	Physical state	powder
b)	Color	No data available
c)	Odor	No data available
d)	Melting point/freezing point	No data available
e)	Initial boiling point and boiling range	No data available
f)	Flammability (solid, gas)	No data available
g)	Upper/lower flammability or explosive limits	No data available
h)	Flash point	Not applicable
i)	Autoignition temperature	No data available
j)	Decomposition temperature	No data available
k)	pH	No data available
l)	Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m)	Water solubility	No data available
n)	Partition coefficient: n-octanol/water	No data available
o)	Vapor pressure	No data available
p)	Density	No data available

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Relative density	No data available
q) Relative vapor density	No data available
r) Particle characteristics	No data available
s) Explosive properties	No data available
t) Oxidizing properties	none

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.2 Possibility of hazardous reactions

Generates dangerous gases or fumes in contact with:  
Acids

### 10.3 Conditions to avoid

Avoid moisture.  
no information available

### 10.4 Incompatible materials

Strong reducing agents, Acids, Strong oxidizing agents

### 10.5 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Oral: No data available  
Acute toxicity estimate Inhalation - 4 h - 0.51 mg/l - dust/mist

(Expert judgment)  
Acute toxicity estimate Dermal - 300.1 mg/kg  
(Expert judgment)

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

No data available

#### Respiratory or skin sensitization

No data available

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**Germ cell mutagenicity**

No data available

**Carcinogenicity**

No data available

**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**

No data available

**11.2 Additional Information**

RTECS: VQ8930000

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated., Salivation, Abdominal pain, Fever, Breathing difficulties, Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia., Chronic effects, excessive calcification of the bones, ligaments, and tendons.

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**SECTION 12: Ecological information****12.1 Toxicity**

No data available

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data 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 Endocrine disrupting properties**

No data available

**12.7 Other adverse effects**

No data available



Downstream users need to comply with the conditions of safe use of the chemical, understand the environmental and health hazard and risk management measures identified on the SDS as well as the local/national regulations concerning the chemical.

#### **Other regulations**

Please pay attention on the waste treatment should also comply with local regulations requirement.

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#### **SECTION 16: Other information**

##### **Full text of H-Statements referred to under sections 2 and 3.**

H301                    Toxic if swallowed.  
H311                    Toxic in contact with skin.  
H331                    Toxic if inhaled.

##### **Further information**

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Eternal-Element Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www. eternal-element.com](http://www. eternal-element.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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