

# SAFETY DATA SHEET

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

Product Number Eternal-Element - ET-YbM-202501

## Ytterbium

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

#### 1.1 Product identifiers

Product name : Ytterbium

Product Number : ET-YbM-202501

Brand : Eternal-Element

CAS-No. : 7440-64-4

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

Company : Shanghai Sheeny Metal Mateirals Co.,Ltd.

Room 210, Kedi Building,

No. 688 Huajiang 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

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

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

### SECTION 2: Hazards identification

Page 1 of 10

## Summary of emergency

powder gray Flammable solid., Harmful if swallowed, in contact with skin or if inhaled., Causes skin irritation., Causes serious eye irritation., May cause respiratory irritation. Show this material safety data sheet to the doctor in attendance. After inhalation: fresh air. In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower., Consult a physician. After eye contact: rinse out with plenty of water., Call in ophthalmologist., Remove contact lenses. After swallowing: immediately make victim drink water (two glasses at most)., Consult a physician. Combustible. Development of hazardous combustion gases or vapours possible in the event of fire. Violent reactions possible with: Strong acids, Halogens Risk of ignition or formation of inflammable gases or vapours with: Water

### 2.1 GHS Classification

Flammable solids (Category 1), H228  
 Acute toxicity, Oral (Category 4), H302  
 Acute toxicity, Inhalation (Category 4), H332  
 Acute toxicity, Dermal (Category 4), H312  
 Skin corrosion/irritation (Category 2), H315  
 Serious eye damage/eye irritation (Category 2A), H319  
 Specific target organ toxicity - single exposure (Category 3), respiratory tract irritation, H335

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

H228	Flammable solid.
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Precautionary Statements

Prevention

P210	Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting/ equipment.
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/ eye protection/ face protection.

Response

P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352 + P312	IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do, and continue rinsing.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

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

H228 Flammable solid.  
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

Precautionary Statements none

## 2.3 Physical and chemical hazards

H228 Flammable solid.

## 2.4 Health hazards

H302 Harmful if swallowed.  
H332 Harmful if inhaled.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

## 2.5 Environmental hazards

Referring to current information, no environmental hazard.

## 2.6 Other hazards - none

# SECTION 3: Composition/information on ingredients

Substance / Mixture : Substance

## 3.1 Substances

Formula : Yb  
Molecular weight : 173.04 g/mol  
CAS-No. : 7440-64-4  
EC-No. : 231-173-2

### Hazardous ingredients

Component	Classification	Concentration
<b>Ytterbium powder</b>	Flammable solids Category 1; Acute toxicity Category 4; Skin corrosion/irritation Category 2; Serious eye	<= 100 % 斯年金属 Eternal-Element

	damage/eye irritation Category 2A; Specific target organ toxicity - single exposure Category 3; H228, H302, H332, H312, H315, H319, H335	
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For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air.

#### In case of skin contact

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

#### In case of eye contact

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

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). 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 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

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Sand Cement Special powder against metal fire

#### Unsuitable extinguishing media

Water Foam

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

Nature of decomposition products not known.

Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire.

### 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.

Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. 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. Risk of explosion.

### 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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Work under hood. Do not inhale substance/mixture.

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### 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

Tightly closed. Keep away from heat and sources of ignition.

Handle and store under inert gas. Air and moisture sensitive.

#### Storage class

Storage class (TRGS 510): 4.1B: Flammable solid hazardous materials

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Ytterbium powder	7440-64-4	PC-TWA	2.5 mg/m <sup>3</sup>	Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

## 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

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.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material : Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time : 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material : Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time : 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Body Protection

Flame retardant antistatic 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. Risk of explosion.

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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          | gray              |
| c) Odor           | No data available |



- |   |  |
|---|--|
| d) Melting point/freezing point                 | Melting point/ range: 824 °C - lit.  |
| e) Initial boiling point and boiling range      | 1,196 °C - lit.  |
| f) Flammability (solid, gas)                    | The substance or mixture is a flammable solid with the category 1.               |
| 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<br>Viscosity, dynamic: No data available |
| m) Water solubility                             | No data available  |
| n) Partition coefficient: n-octanol/water       | Not applicable for inorganic substances  |
| o) Vapor pressure                               | No data available  |
| p) Density                                      | 6.54 g/cm <sup>3</sup> at 25 °C - lit.   |
| Relative density                                | No data available  |
| q) Relative vapor density                       | No data available  |
| r) Particle characteristics                     | No data available  |
|   |  |
| s) Explosive properties                         | Not classified as explosive.   |
| 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

Violent reactions possible with:

Strong acids

Halogens

Risk of ignition or formation of inflammable gases or vapours with:

Water

### 10.3 Conditions to avoid

no information available



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#### 10.4 Incompatible materials

No data available

#### 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 Oral - 500.1 mg/kg

(Expert judgment)

Acute toxicity estimate Inhalation - 4 h - 1.5 mg/l - dust/mist

(Expert judgment)

Acute toxicity estimate Dermal - 1,100 mg/kg

(Expert judgment)

##### Skin corrosion/irritation

Remarks: Causes skin irritation.

##### Serious eye damage/eye irritation

Remarks: Causes serious eye irritation.

##### Respiratory or skin sensitization

No data available

##### Germ cell mutagenicity

No data available

##### Carcinogenicity

No data available

##### Reproductive toxicity

No data available

##### Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

##### Specific target organ toxicity - repeated exposure

No data available

##### Aspiration hazard

No data available

#### 11.2 Additional Information

RTECS: ZG1925000

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

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### SECTION 12: Ecological information

#### 12.1 Toxicity

No data available

#### 12.2 Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.



**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

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

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

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**SECTION 14: Transport information****14.1 UN number**

ADR/RID: 3089

IMDG: 3089

IATA-DGR: 3089

**14.2 UN proper shipping name**

ADR/RID: METAL POWDER, FLAMMABLE, N.O.S.

IMDG: METAL POWDER, FLAMMABLE, N.O.S.

IATA-DGR: Metal powder, flammable, n.o.s.

**14.3 Transport hazard class(es)**

ADR/RID: 4.1

IMDG: 4.1

IATA-DGR: 4.1

**14.4 Packaging group**

ADR/RID: II

IMDG: II

IATA-DGR: II

**14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

**14.6 Special precautions for user**

Based on chemical properties, choose appropriate tools and conditions of transport.

Transporting tools shall be equipped with appropriate and sufficient firefighting equipment and emergency leaking installations. If transporting by road, please go along the specified route.

**14.7 Incompatible materials**

## SECTION 15: Regulatory information

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

#### National regulatory information

##### Law on the Prevention and Control of Occupational Diseases

#### Measures on the Environmental Administration of New Chemical Substances Registration

Registration/Notification number :  
B1A222214496

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.

H228	Flammable solid.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

#### Relevant changes since previous version

5. Fire-fighting measures

#### 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. 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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