

SAFETY DATA SHEET

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SDS No. Eternal-Element-ET-WM-202501
Product Number Eternal-Element-ET-WM-202501

Tungsten

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

1.1 Product identifiers

Product name : Tungsten

Product Number : ET-WM-202501
Brand : Eternal-Element
CAS-No. : 7440-33-7

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&D use only. Not for pharmaceutical, household or other uses.

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SECTION 2: Hazards identification

Summary of emergency

powder gray Self-heating in large quantities; may catch fire. 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. After eye contact: rinse out with plenty of water., Remove contact lenses. After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell. Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.

2.1 GHS Classification

Self-heating substances and mixtures (Category 2), H252

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

Warning

Hazard statement(s)

H252

Self-heating in large quantities; may catch fire.

Precautionary statement(s)

Prevention

P235 + P410

Keep cool. Protect from sunlight.

P280

Wear protective gloves/ eye protection/ face protection.

Storage

P403 + P235

Store in a well-ventilated place. Keep cool.

P407

Maintain air gap between stacks/ pallets.

P420

Store away from other materials.

Reduced Labeling (<= 125 ml)

Pictogram



Signal Word

Warning

Hazard statement(s)

H252

Self-heating in large quantities; may catch fire.

Precautionary

statement(s)

statement(s)

2.3 Physical and chemical hazards

H252

Self-heating in large quantities; may catch fire.

2.4 Health hazards

Referring to current information, no health hazard.

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 : W
Molecular weight : 183.84 g/mol
CAS-No. : 7440-33-7
EC-No. : 231-143-9

Hazardous ingredients

| Component | Classification | Concentration |
|------------------------|--|---------------|
| Tungsten powder | | |
| | Self-heating substances and mixtures Category 2 ; H252 | <= 100 % |

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.

In case of eye contact

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

If swallowed

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

Water Foam Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

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

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

In the event of fire, wear self-contained breathing apparatus.

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. 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 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

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.

Storage class

Storage class (TRGS 510) : 4.2 : Pyrophoric and self-heating hazardous materials

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-----------------|-----------|---------|----------------------|---|
| Tungsten powder | 7440-33-7 | PC-TWA | 5 mg/m ³ | Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents. |
| | | PC-STEL | 10 mg/m ³ | Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents. |

8.2 Exposure controls

Appropriate engineering controls

Change contaminated clothing. Wash hands 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).

Full contact

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

Splash contact

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

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: 3,410 °C - lit. |
| e) Initial boiling point and boiling range | 5,660 °C - lit. |
| f) Flammability (solid, gas) | The product is not flammable. |
| g) Upper/lower flammability or explosive limits | No data available |
| h) Flash point | Not applicable |
| i) Autoignition temperature | Self-heating in large quantities; may catch fire. |
| 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 | slightly soluble |
| n) Partition coefficient: n-octanol/water | Not applicable for inorganic substances |
| o) Vapor pressure | No data available |
| p) Density | 19.3 g/cm ³ 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 | No data available |
| t) Oxidizing properties | none |

9.2 Other safety information

No data available

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

No data available

10.3 Conditions to avoid

no information available

10.4 Incompatible materials

Strong oxidizing agents, Halogens

10.5 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - > 2,000 mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h - > 5.4 mg/l - aerosol

(OECD Test Guideline 403)

LD50 Dermal - Rat - male and female - > 2,000 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

(OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Test Type: Micronucleus test
Species: Mouse

Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Sodium tungstate

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

Repeated dose toxicity - Rat - male and female - Oral - 90 Days - NOAEL (No observed adverse effect level) - 75 mg/kg - LOAEL (Lowest observed adverse effect level) - 125 mg/kg

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Disodium wolframate dihydrate

Repeated dose toxicity - Rat - male and female - inhalation (dust/mist/fume) - 28 Days - NOAEL (No observed adverse effect level) - > 0.65 mg/kg

Remarks: (in analogy to similar products)

RTECS: YO7175000

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

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Inhalation of the dusts should be avoided as even inert dusts may impair respiratory organ functions.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

| | |
|---|--|
| Toxicity to fish | static test LC50 - Danio rerio (zebra fish) - > 181 mg/l - 96 h (OECD Test Guideline 203) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Disodium wolframate dihydrate |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 - Daphnia magna (Water flea) - > 163 mg/l - 48 h (OECD Test Guideline 202) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: |
| Toxicity to algae | static test ErC50 - Pseudokirchneriella subcapitata - 52.9 mg/l - 72 h (OECD Test Guideline 201) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Sodium tungstate |
| Toxicity to bacteria | static test EC50 - activated sludge - > 1,000 mg/l - 30 min (OECD Test Guideline 209) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: |
| Toxicity to fish(Chronic toxicity) | LC50 - Oncorhynchus mykiss (rainbow trout) - 15.61 mg/l - 28 d Remarks: (ECOTOX Database) flow-through test NOEC - Danio rerio (zebra fish) - >= 10 mg/l - 38 d (OECD Test Guideline 210) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Sodium tungstate |
| Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity) | static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 21 d (OECD Test Guideline 211) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: |

12.2 Persistence and degradability

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

12.3 Bioaccumulative potential

| | |
|-----------------|---|
| Bioaccumulation | Poecilia reticulata (guppy) - 0.007 mg/l(Tungsten powder) Bioconcentration factor (BCF) : 0.29 (US-EPA) |
|-----------------|---|

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

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

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

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

ADR/RID: 3189

IMDG: 3189

IATA-DGR: 3189

14.2 UN proper shipping name

ADR/RID: METAL POWDER, SELF-HEATING, N.O.S. (Tungsten powder)

IMDG: METAL POWDER, SELF-HEATING, N.O.S. (Tungsten powder)

IATA-DGR: Metal powder, self-heating, n.o.s. (Tungsten powder)

14.3 Transport hazard class(es)

ADR/RID: 4.2

IMDG: 4.2

IATA-DGR: 4.2

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

Strong oxidizing agents, Halogens

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

Other regulations

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

SECTION 16: Other information

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

H252 Self-heating in large quantities; may catch fire.

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 and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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