

# SAFETY DATA SHEET

## Tungsten 1% Zirconium welding electrode (EWZr-1)

### Section 1. Identification

<b>GHS product identifier</b>	: Tungsten 1% Zirconium welding electrode (EWZr-1)
<b>Product code</b>	: Not available.
<b>Other means of identification</b>	: Not available.
<b>Product type</b>	: Solid.

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

**Identified uses** : Welding and cutting of metals. The product as sold is non-hazardous, the SDS is written based on its normal use and emission of fumes, dust and respirable powders.

**Manufacturer** : Shandong Weldstone Tungsten Industry Co., LTD.  
188 Zhoulong Rd  
Zhoucun District, Zibo City  
Shandong Province, PR China 255300  
Tel : 865336824658  
Fax : 865336823685

**Supplier's details** : Astaras Welding Accessories  
6901 Bryan Dairy Rd. Unit #160  
Largo, FL 33777  
Tel: (727) 546-9600  
Fax: (727) 546-9699

**Emergency telephone number (with hours of operation)** : CHEMTREC, U.S.: 1-800-424-9300 International: +1-703-527-3887  
24/7

### Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B

The product as sold is non-hazardous, the SDS is written based on its normal use and emission of fumes, dust and respirable powders.

#### GHS label elements

**Signal word** : Warning

**Hazard statements** : H320 - Causes eye irritation.

#### Precautionary statements

**Prevention** : P264 - Wash hands thoroughly after handling.

**Response** : P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 - If eye irritation persists: Get medical attention.

**Storage** : Not applicable.

**Disposal** : Not applicable.

**Hazards not otherwise classified** : None known.





## Section 4. First aid measures

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : No specific fire or explosion hazard.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).



## Section 6. Accidental release measures

### Methods and materials for containment and cleaning up

- Spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### United States

##### Occupational exposure limits

Ingredient name	Exposure limits
Tungsten	<b>NIOSH REL (United States, 10/2016).</b> TWA: 5 mg/m <sup>3</sup> , (as W) 10 hours. STEL: 10 mg/m <sup>3</sup> , (as W) 15 minutes. <b>ACGIH TLV (United States, 3/2018).</b> TWA: 3 mg/m <sup>3</sup> , (as W) 8 hours. Form: Respirable
Zirconium dioxide	<b>ACGIH TLV (United States, 3/2018).</b> TWA: 5 mg/m <sup>3</sup> , (as Zr) 8 hours. STEL: 10 mg/m <sup>3</sup> , (as Zr) 15 minutes. <b>NIOSH REL (United States, 10/2016).</b> TWA: 5 mg/m <sup>3</sup> , (as Zr) 10 hours. STEL: 10 mg/m <sup>3</sup> , (as Zr) 15 minutes. <b>OSHA PEL (United States, 5/2018).</b> TWA: 5 mg/m <sup>3</sup> , (as Zr) 8 hours.

#### Canada

##### Occupational exposure limits



## Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Tungsten	<p><b>CA Alberta Provincial (Canada, 6/2018).</b> 8 hrs OEL: 5 mg/m<sup>3</sup>, (as W) 8 hours. 15 min OEL: 10 mg/m<sup>3</sup>, (as W) 15 minutes.</p> <p><b>CA British Columbia Provincial (Canada, 7/2018).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. STEL: 10 mg/m<sup>3</sup> 15 minutes.</p> <p><b>CA Saskatchewan Provincial (Canada, 7/2013).</b> STEL: 10 mg/m<sup>3</sup>, (measured as W) 15 minutes. TWA: 5 mg/m<sup>3</sup>, (measured as W) 8 hours.</p> <p><b>CA Ontario Provincial (Canada, 1/2018).</b> STEL: 10 mg/m<sup>3</sup>, (as W) 15 minutes. TWA: 5 mg/m<sup>3</sup>, (as W) 8 hours.</p>
Zirconium dioxide	<p><b>CA Alberta Provincial (Canada, 6/2018).</b> 8 hrs OEL: 5 mg/m<sup>3</sup>, (as Zr) 8 hours. 15 min OEL: 10 mg/m<sup>3</sup>, (as Zr) 15 minutes.</p> <p><b>CA British Columbia Provincial (Canada, 7/2018).</b> TWA: 5 mg/m<sup>3</sup>, (as Zr) 8 hours. STEL: 10 mg/m<sup>3</sup>, (as Zr) 15 minutes.</p> <p><b>CA Quebec Provincial (Canada, 1/2014).</b> TWAEV: 5 mg/m<sup>3</sup>, (as Zr) 8 hours. STEV: 10 mg/m<sup>3</sup>, (as Zr) 15 minutes.</p> <p><b>CA Ontario Provincial (Canada, 1/2018).</b> STEL: 10 mg/m<sup>3</sup>, (as Zr) 15 minutes. TWA: 5 mg/m<sup>3</sup>, (as Zr) 8 hours.</p>

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.



## Section 8. Exposure controls/personal protection

- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Solid.
- Color** : Gray.
- Odor** : Odorless.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : <3400°C (<6152°F)
- Boiling point/boiling range** : Not available.
- Flash point** : Not available.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 18.2 to 18.97
- Solubility** : Insoluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Flow time (ISO 2431)** : Not available.

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : No specific data.
- Incompatible materials** : Reactive or incompatible with the following materials: oxidizing materials and acids.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.



## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

There is no data available.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Tungsten	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

#### Sensitization

There is no data available.

#### Mutagenicity

There is no data available.

#### Carcinogenicity

There is no data available.

#### Reproductive toxicity

There is no data available.

#### Teratogenicity

There is no data available.

#### Specific target organ toxicity (single exposure)

There is no data available.

#### Specific target organ toxicity (repeated exposure)

There is no data available.

#### Aspiration hazard

There is no data available.

**Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation. Ingestion.

### Potential acute health effects

**Eye contact** : Causes eye irritation.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : No known significant effects or critical hazards.  
**Potential delayed effects** : No known significant effects or critical hazards.



## Section 11. Toxicological information

### Long term exposure

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

### Potential chronic health effects

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

There is no data available.

## Section 12. Ecological information

### Toxicity

There is no data available.

### Persistence and degradability

There is no data available.

### Bioaccumulative potential

There is no data available.

### Mobility in soil

**Soil/water partition coefficient ( $K_{oc}$ )** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.







## Section 15. Regulatory information

- Massachusetts** : The following components are listed: Tungsten; Zirconium dioxide  
**New York** : None of the components are listed.  
**New Jersey** : The following components are listed: Tungsten  
**Pennsylvania** : The following components are listed: Tungsten  
**California Prop. 65**

This product does not require a Safe Harbor warning under California Prop. 65.

### Canadian lists

- Canada inventory (DSL NDSL)** : All components are listed or exempted.  
**Canadian NPRI** : None of the components are listed.  
**CEPA Toxic substances** : None of the components are listed.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B	Calculation method

### History

- Date of issue mm/dd/yyyy** : 01/30/2020  
**Date of previous issue** : 05/15/2015  
**Version** : 7  
**Prepared by** : KMK Regulatory Services Inc.  
**Key to abbreviations** : ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 UN = United Nations

### Notice to reader

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