



MSDS TUNGSTENS

1. Product

Tungsten electrode: Specification according to ISO 6848

Designation	Composition, Impurities total $\leq 0.10\%$		Identification Color
	Oxide Additive	Tungsten	
WT20	ThO ₂ : 1.70-2.20%	Balance	2% Thoriated (Red)
WL15	LaO ₂ : 1.30-1.70%	Balance	Beststrike (Gold)
WC20	CeO ₂ : 1.80-2.20%	Balance	Ceriated (Grey)
WZ8	ZrO ₂ : 0.70-0.90%	Balance	Zirconiated (White)
WL20	LaO ₂ : 1.80-2.20%	Balance	Lanthanated (Blue)
WP	-	≥99.95%	Pure (Green)
WT	Rare earth: 1.80-2.20	≥97.3	Purple

2. Company

Weldspares Ltd. 50.Melford Court. Warrington Cheshire WA1 4RZ

3. Possible dangers

When the products are not in welding, the products are dense materials and even small cartons are relatively heavy. Therefore, they should not be left in a position where physical injury or accident could be caused. Also when the products are not in welding, skin contact does not normally present a hazard, though it is always possible that occasionally individuals may be found allergic to substances usually regarded as inert.

Hazards during grinding and welding

When people grinding the ends of the electrodes before welding, the powders resulted from the electrodes as well as the grinding wheel are deleterious.

Welding fumes (oxides of metal being welded etc.) and gases (such as carbon monoxide etc.) will arise depending on the process, procedure and metal welded. They have adverse effects on human health. Other hazards include metal drop splash and very strong light, which will injure naked eyes and skins. The product (WT) has slight radioactivity.

4. First-aid measures

Eye contact: Wash with water.

Skin contact: Wash with water.

Inhalation: Not applicable.

Ingestion: Not applicable.

General requirements:

When irritation or any discomfort occurs in the eyes, mouth, nose, throat and skin; prolonged cough, excessive phlegm, depressed occurs in stomach and lungs; and any other severe symptoms occurs; qualified physicians must be consulted

When eyes or skin is burned, emergency treatment and medical attention must be sought.

5. Measures for fire fighting

Extinguishing medium

The suitable extinguishing agents should be electrical insulative media such as dry powders with powder extinguisher.

Special fire-fighting measures

These products are not inflammable under ordinary conditions and do not present a fire or explosion risk. Welding arc and sparks can ignite combustibles. In case it occurs, it is recommended to shut down power supply immediately. All surfaces of burned area should be covered by dry powder. Do not touch the materials till they completely cool down.

Special protective equipment

No special measures required.

6. Measures in the event of unintentional release

6.1 Measures related to individuals

Not required.

6.2 Environmental protection measures

WT should be in accordance with Radiation Protection Ordinance.

6.3 Procedures for cleaning

Collect together mechanically.

7. Handling and storage

7.1 Handling

Avoid violent collision considering the brittleness of the tungsten.

Care with the strength of the packing and shelve, because tungsten is very heavy in density.

As to WT, the relative regulation on handling the slightly radioactive materials should be obeyed.

7.2 Storage

Keep dry. Tungsten is stable in chemical.

As to WT, the relative regulation on storing the slightly radioactive materials should be obeyed.

8. Exposure restrictions and personal safety equipment

8.1 Breathing protection

Use enough ventilation and/or local exhaust at the grinder when sharpening the electrodes and the welding arc to keep the dusts, fumes and gases below applicable limits in the worker's breathing zone and the general area. If such equipment is not available, use respirators.

Use approved reparable fume respirator when grinding the electrodes and welding in confined spaces and whenever dust, fume and gas concentrations exceed applicable limits.

8.2 Skin protection

See 'personal protective equipment' as below.

8.3 Eye protection

See 'personal protective equipment' as below.

8.4 Body protection

See 'personal protective equipment' as below.

Personal protective equipment

Put on suitable protective mask or helmet, glasses or screen, hat, clothes, gloves, apron, shoes etc. to prevent injury from arc radiation (WT), sparks and electrical shock. Not to touch live electrical parts and to insulate from the wall and ground.

9. Physical and chemical properties

Appearance: Solid

Colour: Bright gray metal color

Odor: Odorless

Relevant safety data Value/Range Unit

Change in condition

PH-value: No

Boiling point: 5660

Melting point: 3437

Flash point: No

Flammability: Not inflammable under ordinary conditions

Self-flammability: No

Explosion limits: No

Fire-promoting properties: No

Vapor pressure: No

Evaporation rate: No

Density: 19 g/cm3

Solubility:

Aqueous solubility: No

Fat solubility: No

Graduation coefficient: No

10. Stability and reactivity

10.1 Stability:

Stable under ordinary conditions.

10.2 Condition to be avoided

Keep away from the igniting sources.

10.3 Material to avoid

No.

10.4 Dangerous decomposition prod.

No.

11. Toxicology details

Occurring immediately: No.

Chronic: The product poses no appreciable risk when operations meet the requirements of usual industrial hygiene regulations and the ordinance for handling the slightly radioactive materials. Only WT has slight radioactivity.

12. Ecological details

Mobility: No.

Degradability: No.

Accumulation: No.

Aquatic toxicity: No.

General

Follow the local ecological regulations.

13. Disposal considerations

Waste materials and residues:

Disposal must be made according to official regulations and the Radiation Protection Ordinance, only WT has slight radioactivity. Do not mix the waste materials and residues including the electrodes and the ground powders with other garbage.

14. Transport details

Surface transport RID/ADR and GGVs/GGVE

Not dangerous goods.

Inland waterway transport AND/ADNR

Not dangerous goods.

Ocean going transport IMDG

Not dangerous goods.

Air transport IATA-DGR

Not dangerous goods.

Transportation should be commensurate with international transportation specifications.

15. Specification

As to WT, the operation on the product should satisfy the requirements of Radiation Protection Ordinance (StrlSchV). The product can be used with any registration and permit-free.

16. Other information

This safety specification sheet corresponds to the European guidelines from 05/03/1991 and the special information in Article 10 referring to 88/379/EEC, and is listed in Article 3, referring to 91/155/EED. The preceding details are based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. Existing laws and provisions are to be heeded by the recipient of our product at their own risk.