

DATA SHEET FOR TUNGSTEN ELECTRODES 2% THORIATED

1.0 CHEMICAL SPECIFICATION

Tungsten chemical composition 99.8% ThO₂ 1, 70 to 2, 20%

- 1.1 **Form** : bar-shaped
- 1.2 **Colour** : red
- 1.3 **Smell** : scentless

2.0 TECHNICAL SAFETY AND PHYSICAL DATA

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|------|---|--|------------------------|
| 2.1 | Partition change | Melting Point | Over 3000° C |
| | | Evaporizing Point | Over 4200° C |
| 2.2 | Density | (20° C) approx. | 18.8 g/cm ³ |
| | Bulk Density | | ___ kg/m ³ |
| 2.3 | Vaporization pressure | (° C) non transient | ___ mbar |
| | | (° C) | ___ mbar |
| 2.4 | Viscosity | (° C) non viscous | |
| 2.5 | Solubility in water | (20° C) non soluble | ___ g/l |
| | in | (° C) | ___ g/l |
| 2.6 | PH index (at 5 g/H₂O) | (20° C) | |
| 2.7 | Inflammability | ___ °C non applicable | ___ ° C |
| 2.8 | Ignition temperature | ___ °C non applicable | ___ ° C |
| 2.9 | Explosion limits | minimum limit | maximum limit |
| 2.10 | Thermal decomposition | No dangerous chemical reaction under normal | |
| 2.11 | Dangerous decomposition products | temperatures. | |
| 2.12 | Dangerous/toxic reaction | From 300°C onwards oxidation to tungsten oxide WO ₃ . Above 850°C evaporation of built up tungsten oxides WO ₃ yellow. | |
| 2.13 | Miscellaneous | | |

- 3. **TRANSPORT** GGVSee/IMDG-Code : UN-No: ICAO/IATA-DGR
 GGVE/GGVS: RID/ADR: ADNR:

4. REGULATIONS

Regulations only applicable and valid for the WIG welding procedure, see item 5.

5. SAFETY INSTRUCTIONS FOR STORAGE AND OPERATION

5.1 Technical safety instructions

During the process of WIG welding, well-working ventilation and air circulation must be provided as well as exhausting device to absorb welding fume.

5.2 Personal protection gear

Oxygen mask	-	not necessary when adequate ventilation is provided
Hand protection -		welding gloves
Eye protection -		welding goggles or welding shield
Miscellaneous -		there is no danger of possible emerging radioactive Thorium regarding operation and storage of electrodes

5.3 Occupation hygiene see VDI pages

5.4 Fire and explosion protection – no particular measurements necessary

1.5 Disposal

Electrodes may not be disposed together with conventional waste or household Trash. Rest pieces must be disposed of according to the respective regulations

1.0 MEASURES NECESSARY IN CASE OF FIRE AND ACCIDENTS

1.1 After spilling, leaking, gas leakage

1.2 Extinguishing agent

Suitable materials

Not suitable materials no restrictions

1.3 First Aid

In case of prolonged inhaling of welding fume, the person concerned has to consult a person.

In case of burns, eye or nose irritation, a physician must be consulted.

7.0 INFORMATION ON TOXICOLOGY

Avoid the incorporation of thoriated tungsten gases or particle.

8.0 INFORMATION ON ECOLOGY

A regular relation breaching not air, water and floor.

9.0 FURTHER REMARKS REGARDING RADIOACTIVITY

WP material is mainly used for WIG welding electrodes.