

DATA SHEET FOR TUNGSTEN ELECTRODES CERATED

1.0 CHEMICAL SPECIFICATION

- 1.1 Tungsten with 2% ceric oxide
 98% tungsten + 2% CeO₂
- 1.2 **Form** : bar-shaped
- 1.3 **Colour** : metallic grey
- 1.4 **Smell** : scentless

2.0 TECHNICAL SAFETY AND PHYSICAL DATA Inspection by:

- | | | | |
|------|---|---|------------------------|
| 2.1 | Partition change | Melting Point | Over 3000° C |
| | | Evaporizing Point | Over 4200° C |
| 2.2 | Density | (20° C) approx. | 18.7 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 | non applicable | ___ ° C |
| 2.8 | Ignition temperature | 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. Zirconium oxide proves thermally stable. Tungsten exposed to air from 500° C | |
| 2.12 | Dangerous/toxic reaction | onwards oxydation to tungsten oxide WO ₃ , from 850° C onwards evaporation of built up tungsten oxides WO ₃ . | |
| 2.13 | Miscellaneous | | |

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

Additional information

State approved technical authorization not necessary for transport according to Page 1. GGVS/ADR.

4. OTHER REGULATIONS

No regulations are known regarding the handling of ceric oxide enriched tungsten Electrodes. Regulations only applicable and valid for the TIG welding procedure, see item 5.

5. SAFETY INSTRUCTIONS FOR STORAGE AND OPERATION

5.1 Technical safety instructions

During the process of TIG 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 or maybe returned to the supplier with his consent.

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 must be supplied with fresh air.

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

7.0 INFORMATION ON TOXICOLOGY

There is no danger of poisoning or infection in case of mechanical injuries with the electrodes. Damages caused by TIG welding are unknown.

8.0 INFORMATION ON ECOLOGY

Proper operation does not cause undue exhaust responsible for the increase of all water and soil pollution.

9.0 FURTHER REMARKS

WP20 material is mainly used for TIG welding electrodes.