Material Safety Data Sheet

Radnor Tungsten Tri-blend welding electrode (EWG)

Radnor Products, PO Box 6675, Radnor, PA 19087

In case of emergency: (886) 734-3438

1. Chemical Specification

Tungsten with 1.5% lanthanum oxide and 0.08%Yttrium oxide and 0.08%Zirconium oxide

98.34 % tungsten + 1.5% La_2O_3+0.08%Y_2O_3+0.08%ZrO_2

1.1	**Form**	bar-shaped
1.2	**Colour**	metallic grey
1.3	**Smell**	scentless

2.	**Technical Safety and Physical Data**		**Inspection by:**
2.1	**Partition Change**	Melting point Evaporating point	approx. 3,400 °C approx. 5,900 °C
2.2	**Density** **Bulk Density**		approx. 19.0 – 19.1 g/cm³
2.3	**Vaporisation pressure**		non applicable
2.4	**Viscosity**		non viscous
2.5	**Solubility in water**		non soluble
2.6	**PH index (at 5 g/H_2O)**		non applicable
2.7	**Inflammability**		non applicable
2.8	**Ignition temperature**		non applicable
2.9	**Explosion limits**		none
2.10	**Thermal decomposition**		No dangerous chemical reaction under normal temperatures. Lanthanum oxide proves to be thermally stable. Tungsten exposed to air: from 500 °C onwards oxidation to tungsten oxide WO_3 from 850 °C onwards evaporation of built up tungsten oxides WO_3
2.11	**Dangerous decomposition products**		
2.12	**Dangerous/toxic reaction**		
2.13	**Miscellaneous**		

3.	**Transport**	GGVSee/IMDG-Code: GGVE/GGVS:	UN_No.: RID/ADR:	ICAO/IATA-DGR: ADNR:

4. Other regulations

No regulations are known regarding the handling of lanthanum 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 electrodes thorium regarding operation and storage of electrodes

5.3 Occupation hygiene see VDI pages

5.4 Fire and explosion protection no particular measurements necessary

5.5 Disposal

Electrodes may not be disposed together with conventional waste or household trash. Rest pieces must be disposed according to the respective regulations or may be returned to the supplier with his consent.

6. Measures necessary in case of fire and accident

6.1 After spilling, leading, gas leakage

6.2 Extinguishing Agent

Suitable materials	
Non suitable materials	no restrictions

6.3 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. Information on Toxicology

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

8. Information on Ecology

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

9. Further Remarks