Material Safety Data

1. Identification of the Substance/Preparation and the Company/Undertaking

1.1. Product identifier

Substance or preparation trade name: Tungsten-Thoruim
Unique reference numbers(s): Thoriated = Red
VTWETR1716 -1.6mmx175mm
VTWETR1724 - 2.4mmx175mm
VTWETR1732 - 3.2mmx175mm

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Electrodes for Tungsten inert gas welding (TIG)

1.3. Details of the supplier of the safety data sheet

Euromarc
203 Glover Road
Hawera, New Zealand
0800 278 600

1.4. Emergency telephone number

NZ Poison Centre - 0800 POISON (0800 764 766)

2: Hazards identification

2.1. Classification of the substance or mixture

No Significant Hazard

2.2. Label elements

Signal words:

Precautionary statements:

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance

Thorium is a naturally occurring radioactive
element, emitting primarily alpha radiation. Its decay products
emit both alpha and gamma radiation. NCR exposure limit for
natural thorium in air is 2 x 10 –12 micro curies per ml of air (9 micrograms per m3).

There are no recognized hazards associated directly with unused electrodes prior to grinding and welding. Packaged consumables may be heavy, and should be handled and stored with care. FOLLOW MANUAL HANDLING REGULATIONS.

Some very low levels of dust may be produced during handling. DO NOT BREATHE THE DUST. When preparing (grinding) and using these electrodes as part of the welding process additional potential hazards are likely:

GRINDING. Toxic dusts. ENSURE ADEQUATE DUST EXTRACTION, VENTILATION AND DUST DISPOSAL WELDING.
Electric shock from the welding equipment or electrode. This can be fatal. Hot metal spatter and heat, which can cause burns to the hand and body, and may cause fire if in contact with combustible materials. UV, IR and light radiation from the arc, which can produce ‘arc eye’ and possible eye damage to unprotected eyes. WEAR SUITABLE PROTECTIVE EQUIPMENT.
Fumes produced from the electrodes, material being welded and the arc radiation: Particulate fume such as metal oxides from the electrodes, and complex metal oxides and silicates from the weld materials. Gaseous fume such as ozone and nitrogen oxides from the action of arc radiation on the atmosphere. SHORT TERM INHALATION OF THESE FUMES AND GASES MAY LEAD TO IRRITATION OF THE NOSE, THROAT AND EYES. LONG TERM OVEREXPOSURE OR INHALATION OF HIGH LEVELS OF FUMES MAY RESULT IN HARMFUL EFFECTS TO THE RESPIRATORY SYSTEM, CENTRAL NERVOUS SYSTEM AND LUNGS. LOCAL EXTRACTION AND /OR VENTILATION SHOULD BE USED TO ENSURE THAT ALL HAZARDOUS INGREDIENTS IN THE FUME ARE KEPT BELOW THEIR INDIVIDUAL OCCUPATIONAL EXPOSURE STANDARDS IN THE WELDER’S AND OTHER WORKERS’ BREATHING ZONES.

NOTE: If welding is performed on plated or coated materials such as galvanized steel, excessive fume may be produced which contains additional hazardous components, and may result in metal fume fever and other health effects.

3. Composition/information on ingredients

3.1. Hazardous ingredients

	Conc.	CAS	EINECS	Reach	Risk phrases
Tungsten	88-100% %	7440-33-7	231-143-9	01- 2119488910- 30-0003	
Thoria	0 - 4%	1314-20-1	215-225-1		R45, 23, 24, 25, 33

4: First aid measures

4.1. Description of first aid measures

Skin contact: None
Eye contact: Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist. Contact lenses should be removed. Wash with water.

Ingestion: Rinse mouth and drink plenty of water .

Inhalation: Move the exposed person to fresh air. Seek medical attention if there are any adverse symptoms.

4.2 Most important symptoms and effects, both acute and delayed
Eye contact: There may be irritation and redness.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure

Inhalation: there may be long term adverse effects from inhalation of grinding dust

4.3. Indication of any immediate medical attention and special treatment needed

Immediate / special treatment: Eye bathing equipment should be available on the premises.

5: Fire-fighting measures

5.1. Extinguishing media

Water, A,B,C and Class D dry powder

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion produces Tungsten Trioxide WO_3 (CAS1314-35-8).

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes

6. Accidental release measures

Personal precautions	Ensure adequate ventilation of the working area..
Environmental precautions	Do not allow product to enter drains. Prevent further spillage if safe.
Clean up methods	Steps to be taken in case material is spilled or released, provide clean-up employees with respirators for dusty conditions (grinding dust). Dampen down dust with water.

Absorb with inert, absorbent material. Sweep up. Transfer to suitable, labelled containers for disposal. Clean spillage area thoroughly with plenty of soapy water.

7. Handling and storage

Handling Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Adopt best Manual Handling considerations when handling, carrying and dispensing.
.

Storage When not in use, electrodes should be kept in a suitable store, the nature of which will depend upon the number of electrodes. For those holding up to a few hundreds of electrodes it may be most convenient to keep them in a metal cabinet or box since such a store would normally provide adequate shielding against external gamma radiation from bundles of electrodes. Those storing thousands of electrodes may find it more convenient to store them in a separate room. The shielding properties of the walls of the room will be more than adequate. Since the occupancy of a separate room should be very low, metal cabinets within the room would not be necessary. The number of electrodes in store should be kept to a minimum, taking account of expected usage and availability of further stock from manufacturers/suppliers.

8. Exposure Controls

8.1 Exposure limits

Tungsten	**7440-33-7 TWA 5 mg/m3 ST 10 mg/m3**
Thorium Compounds	**7440-29-1 TEEL-1 30mg/m3**
Germany Dust exposures	**TRGS 900**

8.2 Controls

Engineering measures	Ensure adequate ventilation of the working area.
Hand protection	Gloves or hand protection cream
Eye protection	safety spectacles
Protective equipment	Wear protective clothing.
Reparatory protection	Particulate filtering mask (FFP3 type) recommended where dust or aerosols are produced.

9. Physical and chemical properties

Appearance:	Physical form:	Solid.
	Appearance:	Metallic grey rods.
	Odour:	None.

Important relevant safety parameters:

	Value	Unit	Test method (67/548/EEC) Mel
Flame point	Non Flammable		
Relative density (20^{0}C)	18.62	g/cm3	DIN 51 757
Solubility (20^{0}C)	insoluble		
pH value (20^{0}C), 5%	N/A		
Melting point	3680 °C		
Boiling point	5828 °C		
Freezing Point	N/A		

10. Stability and reactivity

Stability	Stable under normal conditions.
Conditions to avoid	Oxidation in presence of Oxygen at increase temperature (600 °C plus)
Materials to avoid	Peroxides. Strong acids.

11. Toxicological information

No Acute oral, dermal or respiratory toxicity

Tungsten	LD_{50} oral Rat	>2000 mg/KG
	LD_{50} dermal Rat	>2000 mg/KG
	LD_{50} respiratory Rat	>5.4mg/l 4Hr exposure
Chronic	There is sufficient evidence to suggest Thorium directly causes cancer if inhaled or ingested.	

12. Ecological information

Non hazardous in water

13 Disposal Considerations

General information	Dispose of in compliance with all local and national regulations.
Disposal methods	Contact a licensed waste disposal company. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.
Disposal of packaging	Empty containers can be sent for disposal or recycling.

14. Transport information

Land (ADR)	UN 2909: radioactive substances, released package, products made of natural thorium; class 7;
Sea (IMDG-Code)	UN 2909: radioactive substances, released package, products made of natural thorium; class 7; EmS: F-I, S-S: pack up category A
Air (ICAO-TI/IATA-DGR)	UN 2909: radioactive substances, released package, products made of natural thorium; class 7;
Further information:	The product is not classified as dangerous for carriage.

15. Regulatory information

16. Other Information

Risk phrases -

R45 May cause cancer
R23 Toxic by inhalation
R24 Toxic in contact with skin
R25 Toxic if swallowed
R33 Danger of cumulative effects

Regulation (EC) No 1907/2006 of the European Parliament and of the Council, (REACH)