

# Material Safety Data Sheet: TUNGSTEN 2% THORIATED

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## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** TUNGSTEN 2% THORIATED  
**Recommended use** Welding  
**Information on Manufacturer**  
X-ERGON by Partsmaster, Div of NCH Corp.  
P.O. Box 655326  
Dallas, TX 75265-5326

**Product Code** 65042000  
**Chemical nature** Inorganic solid blend  
**Emergency Telephone Number**  
CHEMTREC® 800-424-9300

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

#### WARNING

Electric shock can kill  
Arc Rays can injure and burn eyes and skin  
Causes eye irritation  
May be harmful if inhaled  
Keep out of reach of children

**Color** silver - gray

**Physical State** Solid

**Odor** No information available

### Potential Health Effects

**Principle Route of Exposure**

Inhalation

**Primary Routes of Entry**

Inhalation

### Acute Effects

**Eyes**

Causes eye irritation. Welding arc may damage eyes .

**Skin**

Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May cause eye/skin irritation.

**Inhalation**

Welding fumes may result in discomfort such as: dizziness, nausea, or dryness or irritation of nose, throat, or eyes. Fumes can aggravate asthma, bronchial conditions, or allergies. Individuals with allergies or impaired respiratory function may have symptoms worsen by exposure to welding fumes . Inhalation of Tungsten dust may cause irritation of the respiratory tract. Skin or eye contact could cause abrasion or irritation . Thorium is a naturally occurring radioactive element. Its primary hazard lies in inhalation of dust/fumes. Normal handling of these electrodes is not expected to result in any significant radiation exposure. Considerable experience in refining and use of thorium has not revealed any adverse effects from industrial exposure .

**Ingestion**

May be harmful if swallowed.

**Chronic Toxicity**

Prolonged exposure may cause chronic effects. No hazards have been identified for tungsten fume except that it may aggravate an existing chronic respiratory disease . Thorium dioxide has been identified as a carcinogen. Evidence for it ability to cause cancer has come solely from its internal medicine use .

**Target Organ Effects**

Eyes, Skin, Respiratory system, Blood.

**Aggravated Medical Conditions**

No information available

**Potential Environmental Effects**

See Section 12 for additional Ecological information.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Tungsten	7440-33-7	98
Thorium	7440-29-1	2

## 4. FIRST AID MEASURES

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

**Skin Contact**

In case of contact, immediately flush skin with soap and plenty of water. If skin irritation persists, call a physician.

**Inhalation**

Remove person to fresh air. If signs/symptoms continue, get medical attention.

**Ingestion**

If swallowed, do not induce vomiting - seek medical advice.

**Notes to physician**

Treat symptomatically

## 5. FIRE-FIGHTING MEASURES

**Flash Point** The product is not flammable

**Method**

Not applicable

**Autoignition Temperature** No information available.

**Upper** No data available

**Lower** No data available

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Specific hazards arising from the chemical**

Arcs and sparks can ignite combustibles and flammable products. See American National Standard Z49.1; Safety in Welding and Cutting published by The American Welding Society .

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

<b>NFPA</b>	<b>Health 2</b>	<b>Flammability 0</b>	<b>Instability 0</b>
<b>HMIS</b>	<b>Health 2</b>	<b>Flammability 0</b>	<b>Instability 0</b>

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions</b>	Wear appropriate protective clothing. Avoid creating dusty conditions. Transfer solid into a properly labeled container for re-use or disposal. If necessary, wash area with water and pick up wash water for disposal.
<b>Environmental Precautions</b>	Prevent product from contaminating soil or from entering sewage, drainage systems, and bodies of water .
<b>Methods for Containment</b>	Pick up and arrange disposal without creating dust
<b>Methods for Cleaning Up</b>	Shovel or vacuum any spilled material into a suitable container. Alloy wastes are normally collected to recover metal value . Avoid dust formation.
<b>Neutralizing Agent</b>	Not applicable.

**7. HANDLING AND STORAGE**

<b>Handling</b>	Do not eat, drink or smoke when using this product. Ensure adequate ventilation.			
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place			
<b>Storage Temperature</b>	<b>Minimum</b>	35 °F / 2 °C	<b>Maximum</b>	100 °F / 38 °C
<b>Storage Conditions</b>	<b>Indoor</b>	X	<b>Outdoor</b>	<b>Heated</b> <b>Refrigerated</b>

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH
Tungsten	TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	No data available	STEL 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>
Thorium	No data available	No data available	No data available

<b>Engineering Measures</b>	Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gasses below the TLV's in the workers' breathing zone and the general area. Train the worker to keep his head out of the fumes. Use MSHA/NIOSH approved or equivalent fume respirator or air supplied respirator when welding in a confined space or when local exhaust or ventilation does not keep exposure below TLV . .
<b>Personal Protective Equipment</b>	
<b>Eye/Face Protection</b>	Wear a helmet or use face shield with filter lens of appropriate shade number (SEE ANSI/ASCZ49.1) provide protective screen and flash goggles, if necessary, to shield others. As a rule of thumb, start a shade that is too dark to see the weld zone. Then go next lighter shade which gives sufficient view of the weld zone .
<b>Skin Protection</b>	Welder's leather gloves, Wear fire/flame resistant/retardant clothing.
<b>Respiratory Protection</b>	Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gasses below the TLV's in the workers' breathing zone and the general area. Train the worker to keep his head out of the fumes. Use MSHA/NIOSH approved or equivalent fume respirator or air supplied respirator when welding in a confined space or when local exhaust or ventilation does not keep exposure below TLV .
<b>General Hygiene Considerations</b>	Do not eat, drink or smoke when using this product.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State</b>	Solid	<b>Viscosity</b>	Not applicable
<b>Color</b>	silver - gray	<b>Odor</b>	No information available
<b>Appearance</b>	Textured black paste	<b>pH</b>	Not applicable
<b>Specific Gravity</b>	19.3	<b>Evaporation Rate</b>	Not applicable
<b>Percent Volatile (Volume)</b>	No information available	<b>VOC Content (%)</b>	No information available
<b>Vapor Pressure</b>	Not applicable	<b>Vapor Density</b>	No information available
<b>Solubility</b>	Insoluble	<b>Boiling Point/Range</b>	10652 °F / 5900 °C

**10. STABILITY AND REACTIVITY**

<b>Chemical Stability</b>	Stable under normal conditions
<b>Conditions to Avoid</b>	None known

**Incompatible Products**  
**Hazardous Decomposition Products**

Strong acids, Incompatible with oxidizing agents.

Fumes and gasses produced by welding, brazing and similar processes cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, the procedures and the filler metal being used. Other conditions which also influence the composition and quantity of fumes and gases to which the worker may be exposed include: coatings on the metal being welded, the number of welders and the volume of the work space, the quality and amount of ventilation used, the position of the welder's head in relation to the fume plume, as well as the presence of contaminants in the atmosphere when the filler metal is consumed. The fume and gas decomposition products generated are different in percent and form the product ingredients listed in Section III. The products formed in normal operation include those originating from the volatilization, reaction and oxidation of the filler metal, the metal being welded, the coatings, etc. as noted above. One recommended way to determine the composition and quality of fumes and gases to which workers are exposed is to take an air sample inside the welders helmet if worn or in the workers breathing zone. See ANSI/AWS F1.1 "Method For Sampling Airborne Particles Generated By Welding And Allied Processes" available from the American Welding Society, P.O. Box 35140, Miami, FL 33135

None under normal processing

**Possibility of Hazardous Reactions****11. TOXICOLOGICAL INFORMATION**

Product Information No information available.

## Component Information

**Acute Toxicity**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Tungsten	no data available	no data available	no data available	no data available	no data available
Thorium	no data available	no data available	no data available	no data available	no data available

**Chronic Toxicity**

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Tungsten	no data available	no data available	no data available	no data available	eyes,skin,respiratory system,blood
Thorium	no data available	no data available	no data available	no data available	no data available

**Carcinogenicity**

Component	ACGIH	IARC	NTP	OSHA	Other
Tungsten	not applicable	not applicable	not applicable	not applicable	not applicable
Thorium	not applicable	Group 1	not applicable	X	not applicable

**12. ECOLOGICAL INFORMATION**

Product Information No information available.

## Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
Tungsten	no data available	no data available	no data available	no data available	N/A
Thorium	no data available	no data available	no data available	no data available	N/A

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available.

**Mobility**

No information available.

**13. DISPOSAL CONSIDERATIONS****Product Disposal**  
**Container Disposal**

Dispose of in accordance with local regulations.

Empty containers should be taken for local recycling, recovery, or waste disposal

**14. TRANSPORT INFORMATION**

DOT Not regulated

TDG	Not regulated
ICAO	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated

### 15. REGULATORY INFORMATION

**Inventories**

TSCA	Complies
DSL	Complies

**U.S. Federal Regulations**
**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazardous Categorization**

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	No	No	No	No

**CERCLA**

Component	Hazardous Substances RQs	CERCLA EHS RQs
Tungsten	Not applicable	Not applicable
Thorium	Not applicable	Not applicable

**U.S. State Regulations**

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**

D2B Toxic materials, D2A Very toxic materials.



### 16. OTHER INFORMATION

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Reason for Revision	No information available.
Glossary	No information available.
List of References.	No information available.

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