

## Tantalum

**1. PRODUCT AND COMPANY IDENTIFICATION**

PRODUCT NAME: Tantalum metal pieces  
GENERAL USE: Physical vapor deposition of thin films

**MANUFACTURER**

Midwest Tungsten Service  
United States  
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**2. HAZARDS IDENTIFICATION****GHS CLASSIFICATIONS****Health:**

This substance or mixture is not hazardous and is not classified under GHS.

**EMERGENCY OVERVIEW**

**PHYSICAL APPEARANCE:** Blue-grey metal

**IMMEDIATE CONCERNS:** Negligible fire or explosion hazard in bulk form. Powdered material may form explosive dust-air mixtures.

**POTENTIAL HEALTH EFFECTS**

**EYES:** Contact may cause eye irritation.

**SKIN:** May cause skin irritation.

**INGESTION:** Low ingestion hazard in normal use.

**INHALATION:** May cause respiratory irritation.

**REPRODUCTIVE TOXICITY**

**REPRODUCTIVE EFFECTS:** Not Available

**TERATOGENIC EFFECTS:** Not Available

**CARCINOGENICITY:** Not listed as a human carcinogen

**MUTAGENICITY:** Not Available

**MEDICAL CONDITIONS AGGRAVATED:** None expected.

ROUTES OF ENTRY: Inhalation, ingestion, eye contact, or skin contact.

SENSITIZATION: None expected.

PHYSICAL HAZARDS: This substance is not considered hazardous in the form supplied. Dusts at sufficient concentrations can form explosive mixtures with air.

COMMENTS: The physical and toxicological properties of this material have not been thoroughly investigated.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS
Tantalum	100	7440-25-7

### 4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.

SKIN: Wash with soap and water. Get medical attention if irritation develops or persists.

INGESTION: Rinse mouth. Get medical advice/attention.

INHALATION: No specific treatment is necessary since this material is not likely to be hazardous by inhalation. If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.

#### SIGNS AND SYMPTOMS OF OVEREXPOSURE

ACUTE TOXICITY: Poses little or no immediate hazard.

CHRONIC EFFECTS: Not Available

### 5. FIRE FIGHTING MEASURES

FLAMMABLE CLASS: Noncombustible except as a powder.

EXTINGUISHING MEDIA: Use a Class D dry powder extinguisher, dolomite, dry sand, graphite, or soda ash.

EXPLOSION HAZARDS: Dusts at sufficient concentrations can form explosive mixtures with air.

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

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic metal fumes

### 6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Clean up spills immediately, observing precautions in Protective Equipment section.

LARGE SPILL: Collect spilled material in appropriate container. Spill may be reportable. Consult section 15 for Reportable Quantities.

GENERAL PROCEDURES: Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Eliminate all ignition sources if safe to do so. Avoid formation of dust. Provide appropriate exhaust ventilation where dust is formed. Avoid breathing (dust, vapor, mist, gas). Practice good chemical hygiene during and after use. Avoid release to the environment.

### 7. HANDLING AND STORAGE

GENERAL PROCEDURES: To avoid risks to human health and the environment, comply with the instructions for use.

**HANDLING:** Keep away from heat and flame. Keep container closed when not in use. Remove contaminated clothing and wash before reuse. Wash hands before eating and wash before reuse. Wash thoroughly after handling.

**STORAGE:** Keep container closed when not in use. Store in a cool dry place.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Wear safety glasses.

**SKIN:** Wear protective gloves.

**RESPIRATORY:** Not normally needed. If ventilation is inadequate and this material is handled at elevated temperatures or dusts/fumes/mists are generated a NIOSH/MSHA approved air purifying respirator with a manufacturers approved cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

**WORK HYGIENIC PRACTICES:** Practice good chemical hygiene during and after use.

**COMMENTS:**

COMPONENT EXPOSURE LIMITS

Component	Location, Type	Value (mg/m <sup>3</sup> )
Tantalum	OSHA OEL TWA	5
	NIOSH REL TWA	5
	NIOSH REL STEL	10
	Canada - AB, BC, PQ TWA	5
	Canada - ON TWA	10
	Europe TWA	5
	Denmark STEL	10
	Germany TWA (Inhalable)	4
	Germany TWA (Resperable)	1.5
	Australia, NZ, Singapore TWA	5
	UK WEL TWA	5
	UK WEL STEL	10

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE:** Solid

**ODOR:** None

**COLOR:** Blue-grey

**pH:** NA = Not Applicable

**PERCENT VOLATILE:** NA = Not Applicable

FLASH POINT AND METHOD: NA = Not Applicable

FLAMMABLE LIMITS: NA = Not Applicable

AUTOIGNITION TEMPERATURE: NA = Not Applicable

VAPOR PRESSURE: NA = Not Applicable

VAPOR DENSITY: NA = Not Applicable

BOILING POINT: 5458°C

MELTING POINT: 3017°C

SOLUBILITY IN WATER: Insoluble

DENSITY: 16.69 at 25°C

MOLECULAR WEIGHT: 180.9478

## 10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic metal fumes

INCOMPATIBLE MATERIALS: Strong acids, Oxidizing materials, Halogens.

## 11. TOXICOLOGICAL INFORMATION

ACUTE

DERMAL LD<sub>50</sub>: Not Available

SKIN ABSORPTION: Not Available

ORAL LD<sub>50</sub>: Not Available

INHALATION LC<sub>50</sub>: Not Available

CARCINOGENICITY

IARC: Not listed

NTP: Not listed

OSHA: Not listed

REPRODUCTIVE EFFECTS: Not Available

TERATOGENIC EFFECTS: Not Available

MUTAGENICITY: Not Available

## 12. ECOLOGICAL INFORMATION

BIOACCUMULATION/ACCUMULATION: Not Available

AQUATIC TOXICITY (ACUTE): Not Available

CHEMICAL FATE INFORMATION: Not Available

## 13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose of according to applicable federal, state, provincial, and local regulations.

PRODUCT DISPOSAL: Contact a licensed waste disposal company.

EMPTY CONTAINER: Follow all MSDS/label precautions even after container is emptied because it may retain product residues.

#### 14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Not Regulated

ROAD AND RAIL (ADR/RID)

PROPER SHIPPING NAME: Not Regulated

AIR (ICAO/IATA)

SHIPPING NAME: Not Regulated

VESSEL (IMO/IMDG)

SHIPPING NAME: Not Regulated

CANADA TRANSPORT OF DANGEROUS GOODS

SHIPPING NAME: Not Regulated

#### 15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: None

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: All components of this product are included in inventory, exempt, or notified

REGULATIONS

STATE REGULATIONS:

The following components appear in one or more of the following state hazardous substances lists

Component	CAS	CA	MA	MN	NJ	PA	RI
Tantalum	7440-25-7	No	No	No	Yes	Yes	Yes

CALIFORNIA PROPOSITION 65: This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): Not Regulated

DOMESTIC SUBSTANCE LIST (INVENTORY): All components of this product are included in inventory, exempt, or notified

#### 16. OTHER INFORMATION

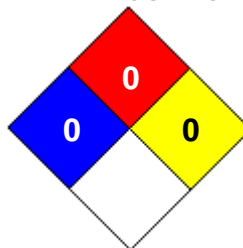
PREPARED BY: B Baron

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#### HMIS RATING

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	B

#### NFPA CODES



GENERAL STATEMENTS: The physical and toxicological properties of this material have not been thoroughly investigated.

#### MANUFACTURER DISCLAIMER:

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