




---

**ELECTRONIC SPACE PRODUCTS INTERNATIONAL**


---

1050 Benson Way, Ashland, OR 97520  
 Toll Free (800) 638-2581 \* Fax (541) 488-8313  
 E-Mail: sales@espimetals.com

## MATERIAL SAFETY DATA SHEET

### I PRODUCT IDENTIFICATION

---

**Trade Name:** Tantalum Oxide  
**Formula:** Ta<sub>2</sub>O<sub>5</sub>

**Chemical Family:** Metal oxide  
**CAS #:** 1314-61-0

### II HAZARDOUS INGREDIENTS

---

<u>Hazardous Component</u>	<u>%</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
Tantalum Oxide	0-100	5 mg Ta/m <sup>3</sup>	5 mg Ta/m <sup>3</sup>

### III PHYSICAL DATA

---

<b>Boiling Point:</b>	N/A	<b>Melting Point:</b>	1872 °C
<b>Specific Gravity (water = 1):</b>	8.2	<b>Solubility in H<sub>2</sub>O:</b>	Insoluble
<b>Appearance and Odor:</b>	White powder and pieces, no odor.		

### IV FIRE AND EXPLOSION HAZARDS DATA

---

**Flash Point (Method used):** N/A  
**Flammable Limits: Upper:** N/A **Lower:** N/A

**Autoignition Temperature:** N/A  
**Flammability:** Non-flammable

**Extinguishing Media:** Use suitable extinguishing media for surrounding materials and type of fire.

**Special Fire Fighting Procedures:** Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

**Unusual Fire & Explosion Hazard:** When heated to decomposition, tantalum oxide may emit toxic fumes.

## V HEALTH HAZARD INFORMATION

---

### Effects of Exposure:

To the best of our knowledge the chemical, physical and toxicological properties of tantalum oxide have not been thoroughly investigated and recorded. Some industrial skin injuries from tantalum have been reported. Systemic industrial poisoning however, is apparently unknown. Questionable carcinogen with experimental tumorigenic data.

### Acute:

**Inhalation:** May cause irritation to the nose and throat.

**Ingestion:** May be toxic by ingestion.

**Skin:** May cause abrasive irritation.

**Eye:** May cause abrasive irritation.

**Chronic:** No chronic health effects recorded.

**Target Organs:** No target organs affected.

**Medical conditions generally aggravated by exposure:** Pre-existing respiratory and skin disorders.

**Carcinogenicity:** NTP? No

**IARC Monograph?** No

**OSHA Regulated?** No

### EMERGENCY FIRST AID PROCEDURES:

**INHALATION:** Remove to fresh air; keep warm and quiet; give oxygen if breathing is difficult and seek medical attention if symptoms persist.

**INGESTION:** Give 1-2 glasses of milk or water and induce vomiting; seek medical attention. Never give anything by mouth to an unconscious person.

**SKIN:** Remove contaminated clothing; brush material off skin; wash affected area with mild soap and water; seek medical attention if symptoms persist.

**EYES:** Immediately flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes. Seek medical attention if symptoms persist.

## VI REACTIVITY DATA

---

**Stability:** Stable.

**Conditions to Avoid:** None

**Incompatibility (Materials to Avoid):** Strong oxidizing agents, ClF<sub>3</sub>, BrF, lithium and acids.

**Hazardous Polymerization:** Will not occur

**Hazardous Decomposition Products:** None

## VII SPILL OR LEAK PROCEDURES

---

**Steps to Be Taken If Spilled or Released:** Wear appropriate respiratory and protective equipment. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

**Waste Disposal Method:** Dispose of in accordance with local, state and federal regulations.

## VIII SPECIAL PROTECTION INFORMATION

---

**Respiratory Protection (Specify Type):** NIOSH - approved dust respirator.

**Ventilation: Local:** To maintain concentration at or below the PEL, TLV.

**Mechanical:** Recommended

**Eye Protection:** Safety Glasses.

**Protective Gloves:** Rubber gloves.

**Other Protective Equipment:** Protective gear suitable to prevent contamination.

## IX SPECIAL PRECAUTIONS

---

**Other Handling and Storage Conditions:** Store in cool, dry area. Wash thoroughly after handling. Store in tightly sealed container.

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. ESPI shall not be held liable for any damage resulting from handling or from contact with the above product.

Prepared by: S. Dierks  
Dated: January 1994