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## SAFETY DATA SHEET

### Section 1- IDENTIFICATION

COMPOSITION <b>Ta2O5</b>		PRODUCT NAME <b>Tantalum Pentoxide</b>
SUPPLIER: <b>Plasmaterials, Inc. 2268 Research Drive Livermore, CA 94550 Ph: 925-447-4030</b>	RECOMMENDED USE: <b>Laboratory Chemicals Scientific Research</b>	EMERGENCY TELEPHONE NUMBERS <b>US: 001-800-424-9300 Europe: 001-703-527-3887</b>

### Section 2- HAZARD(S) IDENTIFICATION

<b>Classification:</b> Not a hazardous substance or mixture	
<b>LABEL ELEMENTS:</b> Not a hazardous substance or mixture	<b>Hazard Statements:</b> Not a hazardous substance or mixture
<b>Precautionary Statements:</b> Not a hazardous substance or mixture	
<b>Hazards not otherwise classified (HNOC):</b> None identified	

### Section 3- COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS-No	Molecular Weight
Tantalum Pentoxide	1314-61-0	441.89 g/mol

### Section 4- FIRST AID MEASURES

**INHALATION:** Remove victim from exposure to fresh air; lie down and keep warm and quiet. Give oxygen if breathing is difficult. If not breathing, give artificial respiration.

**SKIN CONTACT:** Wash off with soap and plenty of water.

**EYE CONTACT:** Flush eyes with lukewarm water, lifting upper and lower lids, for at least 15 minutes as a precaution.

**INGESTION:** Rinse mouth with water. Never give anything by mouth to an unconscious person.

**MOST IMPORTANT SYMPTOMS/EFFECTS:** No information available

**Indication of any immediate medical attention and special treatment needed:** No data available

### Section 5- FIREFIGHTING MEASURES

<b>Suitable Extinguishing Media:</b> Carbon Dioxide (CO2); Dry Chemical, Water Spray, alcohol-resistant foam	<b>Unsuitable Extinguishing Media:</b> No Information Available
<b>Specific Hazards Arising from the Chemical:</b> No data available.	
<b>Hazardous Combustion Products:</b> No data available	
<b>Protective Equipment &amp; Precautions for Firefighters:</b> As in any fire, Firefighters must wear full face, self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective clothing to prevent contact with skin and eyes.	

## Section 6- ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Use personal protective equipment. Avoid dust formation. Avoid breathing dust, vapors, mist or gas.

**Environmental Precautions:** Do not let enter drains. See Section 12 for additional ecological information.

**Methods for Containment & Clean Up:** Sweep up and shovel. Keep in suitable, closed containers for disposal.

## Section 7- HANDLING AND STORAGE

**Handling:** Provide appropriate exhaust ventilation at places where dust is formed.

**Storage:** Keep in a dry, cool and well ventilated place. Keep container tightly closed.

## Section 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines:

Component	CAS-No.	Value	Control Parameters	Basis
Ta2O5	1314-61-0	TWA	5.000000mg/m3	USA.ACGIH Threshold Limit Values (TLV)
	Remarks	Upper respiratory tract irritation. Adopted values or notations enclosed are those for which changes are proposed in the NIC (Notice of Intended Changes)		
		TWA	5.000000mg/m3	USA.Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants
		TWA	5.000000 mg/m3	USA.NIOSH Recommended Exposure Limits
		ST	10.000000 mg/m3	USA.NIOSH Recommended Exposure Limits
		PEL	5 mg/m3	California permissible exposure limits for chemical contaminants(Title 8, Article 107)

**Engineering Measures:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

### Personal Protective Equipment:

**Eye/Face Protection:** Wear appropriate protective eyeglasses or chemical safety goggles with side shields as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and Body Protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Choose body protection in relation to its type, to the concentration and amount of the dangerous substances, and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of dangerous substance at the specific workplace.

**Respiratory Protection:** Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety practice.

**Control of Environment Exposure:** Do not let product enter drains.

## Section 9- PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Powder or solid in various forms

**Appearance:** White, beige

**Odor:** Odorless

**Odor Threshold:** No information available  
**pH:** No information available  
**Melting Point/Range:** 1800°C / 3272°F  
**Boiling Point/Range:** No data available  
**Flash Point:** No information available  
**Evaporation Rate:** No information available  
**Flammability (solid,gas):** No information available  
**Flammability or Exposure Limits:**  
**Upper:** No data available  
**Lower:** No data available  
**Vapor Pressure:** No information available  
**Vapor Density:** Not applicable  
**Relative Density:** 8.2 g/cm<sup>3</sup> (68.429 lbs/gal) at 20°C (68°F)  
**Solubility:** No data available  
**Partition coefficient; n-octanol/water:** No data available  
**Auto Ignition Temperature:** No information available  
**Decomposition Temperature:** No information available  
**Viscosity:** No information available  
**Explosive Properties:** No information available  
**Oxidizing Properties:** No information available

## Section 10- STABILITY AND REACTIVITY

**Reactive Hazard:** None known, based on information available.

**Stability:** Stable under recommended storage conditions.

**Conditions to Avoid:** Incompatible products

**Incompatible Materials:** Strong oxidizing agents

**Hazardous Decomposition Products:** Metal oxide fume. Hazardous decomposition products formed under fire conditions-Tantalum Oxides. Other decomposition products-No information available

**Hazardous Polymerization:** No information available

**Hazardous Reactions:** No information available

## Section 11- TOXICOLOGICAL INFORMATION

### **Acute Toxicity:**

#### **Product Information/Component Information:**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tantalum Pentoxide	8,000 mg/kg (Rat)	Not available	Not available

**Toxicological Synergistic Products:** No information available

### **Delayed and immediate effects as well as chronic effects from short and long term exposure:**

**Skin Corrosion/Irritation:** May cause irritation

**Serious eye damage/irritation:** May cause irritation

**Respiratory or Skin Sensitization:** No information available

**Carcinogenicity:** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	OSHA
Ta2O5	1314-61-0	Not Listed	Not Listed	Not Listed

**Mutagenic Effects:** No information available  
**Reproductive Effects:** No information available  
**Development Effects:** No information available  
**Teratogenicity:** No information available  
**STOT – single exposure:** No information available  
**STOT – repeated exposure:** No information available  
**Aspiration Hazard:** No information available  
**Symptoms/effects, both acute & delayed:** No information available  
**Other Adverse Effects:** The chemical, physical and toxicological properties have not been fully investigated.

**Section 12- ECOLOGICAL INFORMATION**

**Ecotoxicity:** No information available. Do not empty into drains  
**Persistence and Degradability:** No information available  
**Bioaccumulation/Accumulation:** No information available  
**Mobility in Soil:** No information available  
**PBT:** Not applicable  
**vPvB:** Not applicable  
**Other Adverse Effects:** No information available

**Section 13- DISPOSAL CONSIDERATIONS**

**Waste Disposal Methods:** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dispose of contaminated packaging as unused product.

**Section 14- TRANSPORT INFORMATION**

**DOT:** Not regulated  
**IATA:** Not regulated  
**IMDG/IMO:** Not regulated

**Section 15- REGULATORY INFORMATION**

**US Federal Regulations:**  
**SARA 302:** Not applicable  
**SARA 313:** Not applicable  
**SARA 311/312 Hazardous Categorization:**  
**Acute Health Hazard:** No  
**Chronic Health Hazard:** No  
**HMIS (USA):**  
**Health Hazard:** 0  
**Flammability:** 0  
**Physical Hazard:** 0  
**National Fire Protection Association (USA):**  
**Health Hazard:** 0  
**Flammability:** 0  
**Reactivity:** 0  
**US California Proposition 65:** This product does not contain any chemicals known to the State of California to cause cancer, birth defects or any other reproductive harm.

**US State Right-to-Know:**

Component	Massachusetts	New Jersey	Pennsylvania
Ta2O5		X	X

## **Section 16- OTHER INFORMATION**

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulations are subject to change, the conditions of handling and use, or misuse are beyond our control, Plasmaterials, Inc. makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Users should satisfy themselves that they have all current data relevant to their particular use.

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