



MATERIAL SAFETY DATA SHEET

17485 Monterey Road Suite 302, Morgan Hill, CA 95037
(408)466-6469 sales@himet-materials.com

Tantalum Pentoxide (Pieces)

1. Product Identification

Trade Name: Tantalum pentoxide pieces
Chemical Formula: Ta₂O₅
Recommended Use: Scientific research and development

2. Hazards Identification

Signal Word: Warning
Hazard Statements: None
Precautionary Statements: None
HMIS Ratings (0-4):
Health: 1
Flammability: 0
Reactivity: 0

3. Composition

Chemical Family: Ceramic
Additional Names: Tantalum(V) oxide, Tantalum oxide,
Tantalum pentoxide (Ta₂O₅):
Percentage: 100 wt%
CAS #: 1314-61-0
EC #: 215-238-2

4. First Aid Procedures

General Treatment: Seek medical attention if symptoms persist.
Special Treatment: None
Important Symptoms: None
Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion: Give one to two glasses of water and induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person.
Skin: Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes: Flush eyes with water, blinking often for ten minutes.

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5. Fire and Explosion Hazards Data

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|--------------------------------|--|
| Flammability: | Non-flammable |
| Flash Point: | N/A |
| Autoignition Temperature: | N/A |
| Extinguishing Media: | Use suitable extinguishing agent for surrounding material and type of fire. |
| Spec. Fire Fighting Procedure: | Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. |

6. Accidental Release Measures

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| If Material Is Released/Spilled: | Wear appropriate respiratory and protective equipment specified in special protection information. 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 disposal. Take care not to raise dust. |
| Environmental Precautions: | Isolate runoff to prevent environmental pollution. |

7. Handling and Storage

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| Handling Conditions: | Wash thoroughly after handling. |
| Storage Conditions: | Store in a cool dry place in a tightly sealed container. |
| Work/Hygienic Maintenance: | Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air. |
| Ventilation: | Provide sufficient ventilation to maintain concentration at or below TLV. |

8. Exposure Controls and Personal Protection

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| Permissible Exposure Limits: | 5 mg/m ³ as Ta dust long-term (USA) |
| Threshold Limit Value: | Withdrawn |
| Special Equipment: | None |
| Respiratory Protection: | Dust Respirator, NIOSH approved |
| Protective Gloves: | Rubber gloves |
| Eye Protection: | Safety glasses / goggles |
| Body Protection: | Protective work clothing. Wear close-toed shoes and long sleeves/pants. |

9. Physical and Chemical Characteristics

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|-------------------|--|
| Color | White or Black |
| Form: | Pieces, Pellets, Sputtering target, Custom parts |
| Odor: | Odorless |
| Water Solubility: | Insoluble |
| Boiling Point: | N/A |
| Melting Point: | 1800 °C |
| Density: | 8.2 g/cc |
| Molecular weight: | 441.89 g/mol |

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10. Reactivity

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| Stability: | Stable under recommended storage conditions |
| Reacts With: | Strong oxidizing agents |
| Incompatible Conditions: | None |
| Haz. Decomposition Products: | Metal oxide fume |

11. Toxicological Information

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| Potential Health Effects: | |
| Eyes: | May cause irritation |
| Skin: | May cause irritation |
| Ingestion: | May cause irritation |
| Inhalation: | May cause irritation |
| Chronic: | N/A |
| Routes of Entry: | None |
| Target Organs: | N/A |
| Signs & Symptoms of Exposure: Medical Conditions | N/A |
| Aggravated by Exposure: | N/A |
| Median Lethal Dose: | 8000 mg/kg for rat by mouth |
| Carcinogen: | N/A |

12. Ecological Information

Ecological data is not available.

13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.

14. Transportation Data

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|-----------------------|--|
| Hazardous: | The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT). |
| Hazard Class: | Not classified. No transport warning sign required. |
| Packing Group: | Not applicable |
| UN Number: | Not applicable |
| Proper Shipping Name: | Not applicable |

15. Regulatory Information

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| Sec 302 Extremely Hazardous: | No |
| Sec 304 Reportable Quantities: | N/A |
| Sec 313 Toxic Chemicals: | No |

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. **No warranty, guarantee or representation is made to its accuracy, reliability or completeness.** These materials should only be

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handled by, or under the direct supervision of a “technically qualified individual”, as defined in TSCA regulations 40 CFR 710.3(ee). The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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