## Chemical Identity

**Label Identity**

**Chemical Name/Synonyms**

TANTALUM OXIDE
TANTALUM PENTOXIDE, TANTALUM (V) OXIDE

**Formula**

Ta2O5

**Chemical Family**

METAL OXIDE

**Hazardous Ingredients**

<table>
<thead>
<tr>
<th>%</th>
<th>CAS</th>
<th>TLV</th>
<th>OSHA/PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>1314-61-0</td>
<td>5mg/m3</td>
<td>5mg/m3 (as Ta)</td>
</tr>
</tbody>
</table>

## Physical and Chemical Properties

**Color, Form and Odor**

White powder; odorless

**Boiling Point**

ND

**Density (gm/cc)**

8.2

**Vapor Pressure @ 20°**

NA

**% Volatile by Volume (%)**

NA

**Reaction with Water**

None

**Evaporation Rate (H2O=1)**

NA

**Solubility in Water**

Insoluble

**Melting Point**

1872 ± 10

## Fire and Explosion Hazard Data

**Flash Point**

NA

**Autoignition Temperature (°C)**

NA

**Flammability**

Non-flammable

**Extinguishing Media**

Use dry chemical, CO2.

**Special Fire Fighting Procedures**

Wear a self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes.

**Unusual Fire & Explosion Hazards**

May generate toxic fumes if involved in a fire.

## Health Hazard Information

**Toxicity Data**

<table>
<thead>
<tr>
<th>orl-rat LD50</th>
<th>Ta data</th>
<th>imp-rat TDLO</th>
</tr>
</thead>
<tbody>
<tr>
<td>8000mg/kg</td>
<td></td>
<td>3760mg/kg</td>
</tr>
</tbody>
</table>

**HMIS Rating:**

- **Health:** 1*
- **Flammability:** 0
- **Reactivity:** 0
- **Personal Protection:** E

**Routes of Entry:**

- **Inhalation:** Yes
- **Skin:** Yes
- **Ingestion:** Yes
MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Respiratory Disorders

EFFECTS OF OVEREXPOSURE (acute and chronic):

INHALATION: May cause pulmonary irritation. Coughing or sneezing may result.
DERMAL/EYE: mild irritation/ inflammation, watering, or inflammation may result.
OTHER: Tantalum metal is an experienced equivocal tumorigenic agent. Some industrial skin injuries from tantalum have been reported. However, systemic industrial poisoning is apparently not known. Low oral activity.

CARCINOGENICITY: None  NTP: No  IARC MONOGRAPHS: No  OSHA REGULATE: No

EMERGENCY FIRST AID PROCEDURES:

INGESTION: Administer 1-2 glasses water or milk and induce vomiting, seek medical attention.
INHALATION: Remove to fresh air, administer oxygen if breathing is difficult. Seek medical attention.
SKIN CONTACT: Wash affected area with soap and water, seek medical attention.
EYE CONTACT: Flush eyes for at least 15 minutes with lukewarm water, seek medical.

REATIVITY DATA

STABILITY
CONDITIONS CONTRIBUTING TO UNSTABILITY
INCOMPATIBILITY (MATERIALS TO AVOID)
HAZARDOUS DECOMPOSITION PRODUCTS
HAZARDOUS POLYMERIZATION
CONDITIONS TO AVOID
Stable
Stable
Stable
Stable
Stable
Stable
Stable
Stable
Heat
Heat
Heat
Heat
Heat
Heat
Heat
Heat
ClF3,BrF3, Li
ClF3,BrF3, Li
ClF3,BrF3, Li
ClF3,BrF3, Li
Ta, Ta205
Ta, Ta205
Ta, Ta205
Ta, Ta205
Will Not Occur
Will Not Occur
Will Not Occur
Will Not Occur
High heat, incompatible materials
High heat, incompatible materials
High heat, incompatible materials
High heat, incompatible materials

SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Wear self-contained breathing apparatus and full protective clothing, Isolate the area where the spill occurred and insure proper ventilation is available.

WASTE DISPOSAL METHOD:

Consult federal, state and local regulations for proper disposal.

SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION
LOCAL EXHAUST
MECHANICAL (general)
SPECIAL
PROTECTIVE GLOVES
EYE PROTECTION
NIOSH approved dust-mist-fume respirator
Maintain below TLV for tantalum
Recommended
NA
Neoprene
Safety glasses
TANTALUM OXIDE
MATERIAL SAFETY DATA SHEET

OTHER PROTECTIVE EQUIPMENT
Wear protective clothing to prevent contamination of skin and clothes

SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:
Store in tightly closed container, store away from heat and incompatible materials, wash hands and face thoroughly after handling and before meals.

TRANSPORTATION REQUIREMENTS
DOT CLASS: Not Classified
UN NUMBER: NC
IMCO CLASS: NC
OTHER: ---

PRECAUTIONARY LABELING
NONE

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NA= NOT APPLICABLE  ND= NO DATA FOUND