

MATERIAL SAFETY DATA SHEET

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Version 1.7

Section 1 - Product and Company Information

Product Name	TANTALUM, POWDER, -40+200 MESH, >=99.9%
Product Number	262838
Brand	ALDRICH
Company	Sigma-Aldrich
Address	3050 Spruce Street SAINT LOUIS MO 63103 US
Technical Phone:	800-325-5832
Fax:	800-325-5052
Emergency Phone:	314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
TANTALUM POWDER	7440-25-7	No

Formula	Ta
Synonyms	Tantalum-181 * Tantalum, metal (ACGIH:OSHA)
RTECS Number:	WW5505000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Flammable (USA) Highly Flammable (EU). Irritant.

Highly flammable. Irritating to eyes, respiratory system and skin.

HMIS RATING

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 3

NFPA RATING

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 3

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

INFORMATION FOR PHYSICIAN

Contamination of the eyes should be treated by immediate and prolonged irrigation with copious amounts of water.

Section 5 - Fire Fighting Measures

FLAMMABLE HAZARDS

Flammable Hazards: Yes

EXPLOSION DATA

Dust Potential: This material, like most materials in powder form, is capable of creating a dust explosion.

FLASH POINT

N/A

AUTOIGNITION TEMP

300 °C

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Dry chemical powder.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Flammable solid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Avoid raising dust. Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep container closed. Keep away from heat, sparks, and open flame.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	5 MG/M3
USA	MSHA Standard-air	TWA	5 MG/M3
USA	OSHA.	PEL	8H TWA 5 MG/M3
New Zealand OEL			
Remarks: check ACGIH TLV			
USA	NIOSH	TWA	5 MG/M3
		STEL	10 MG/M3

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	5 MG/M3
Poland		NDSch	-
Poland		NDSP	-

Section 9 - Physical/Chemical Properties

Appearance Physical State: Solid
 Color: Light grey

Property	Value	At Temperature or Pressure
Molecular Weight	180.95 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	< 0.01 mmHg	537.2 °C
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	

Autoignition Temp	300 °C
Refractive Index	N/A
Optical Rotation	N/A
Miscellaneous Data	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Oxygen, Halogens, Strong bases, Hydrogen fluoride.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Nature of decomposition products not known.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

CHRONIC EXPOSURE - CARCINOGEN

Species: Rat

Route of Application: Implant

Dose: 3760 MG/KG

Result: Tumorigenic:Tumors at site or application.

Tumorigenic:Equivocal tumorigenic agent by RTECS criteria.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Material in the elemental state should be recovered for reuse or recycling. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Metal powders, flammable, n.o.s.

UN#: 3089

Class: 4.1

Packing Group: Packing Group II

Hazard Label: Flammable solid
PIH: Not PIH

IATA

Proper Shipping Name: Metal powder, flammable, n.o.s.
IATA UN Number: 3089
Hazard Class: 4.1
Packing Group: II

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: F-Xi
Indication of Danger: Highly Flammable. Irritant.
R: 11-36/37/38
Risk Statements: Highly flammable. Irritating to eyes, respiratory system and skin.
S: 26-36/37/39
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable (USA) Highly Flammable (EU). Irritant.
Risk Statements: Highly flammable. Irritating to eyes, respiratory system and skin.
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2010 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.