



CHEMICAL PRODUCT SAFETY DATA SHEET

Prepared in accordance with GB/T 16483 and GB/T 17519.

MATERION

Product name: Tantalum Aluminum Targets

Issue date: 12-05-2019

Revision date: 09-20-2021


Version #: 02

SDS No: G50

SECTION 1 Chemical product and company identification

Chinese name of chemical	钽铝靶	
English name of chemical	Tantalum Aluminum Targets	
Manufacturer/Supplier	Materion Advanced Materials	
Address	6070 Parkland Boulevard Mayfield Heights, OH 44124 United States	
Contact person	Theodore Knudson	
Telephone	EH&S	1.216.383.4019
e-mail	ehs@materion.com	
Emergency telephone number	See Section 16.	
Issue date	12-05-2019	
Revision date	09-20-2021	
Supersedes date	12-05-2019	
SDS No	G50	

SECTION 2 Hazards identification

Emergency overview	Causes damage to organs through prolonged or repeated exposure.	
GHS hazard categories		
Physical hazards	Not classified.	
Health hazards	Specific target organ toxicity, repeated exposure	Category 1 (Respiratory system)
Environmental hazards	Not classified.	
Label elements		
Pictograms		
Signal word	Danger	
Hazard statement		
H372	Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.	
Precautionary statement		
Prevention		
P260	Observe good industrial hygiene practices. Do not breathe dust.	
Response		
P314	Get medical advice/attention if you feel unwell.	
Storage	Store away from incompatible materials.	
Disposal		
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.	

Physical and chemical hazards	The product is stable and non-reactive under normal conditions of use, storage and transport. No unusual fire or explosion hazards noted.
Health hazards	Dust may irritate respiratory system. Prolonged inhalation may be harmful. Dust or powder may irritate the skin. Dust may irritate the eyes.
Environmental hazards	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Supplemental information	For further information, please contact the Product Stewardship Department at +1.216.383.4019.

SECTION 3 Composition/information on ingredients

Substance/mixture	Mixture		
Chemical name	Concentration (%)	CAS Number	
NEEDED - CHINESE NAME OR TRADE NAME WITH CHINESE USER DESCRIPTOR.	86 - 88	7440-25-7	
Tantalum			
铝	14 - 16	7429-90-5	
Aluminum			

SECTION 4 First aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms and health effects	Dusts may irritate the respiratory tract, skin and eyes. Under normal conditions of intended use, this material does not pose a risk to health.
Personal protection for first-aid responders	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
Notes to physician	Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media	Dry powder. Dry sand. Carbon dioxide (CO2).
Extinguishing media to avoid	Water.
Specific hazards	Non-combustible, substance itself does not burn.
Special fire fighting procedures	Move containers from fire area if you can do so without risk.
Protection of fire-fighters	Wear suitable protective equipment.
General fire hazards	No unusual fire or explosion hazards noted.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Keep unnecessary personnel away. Do not breathe dust. For personal protection, see section 8 of the SDS.
For emergency responders	Use personal protection recommended in Section 8 of the SDS.
Environmental precautions	No special environmental precautions required.
Clean-up methods and materials and containment measures	Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk.
	Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS.
Prevention of secondary hazards	Not available.

SECTION 7 Handling and storage

Handling	Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Observe good industrial hygiene practices.
Storage	Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8 Exposure controls/personal protection**Exposure limits**

China OELs. Occupational Exposure Limits for Hazardous Agents in the Workplace, Chemical Hazardous Agents (GBZ 2.1-2007)

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	PC-TWA	3 mg/m ³	Total dust.
Tantalum (CAS 7440-25-7)	PC-TWA	5 mg/m ³	

Biological limit values	No biological exposure limits noted for the ingredient(s).
Monitoring methods	Follow standard monitoring procedures.
Engineering measures	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.
Personal protective equipment	
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Hand protection	Wear gloves to prevent metal cuts and skin abrasions during handling.
Eye protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Wear suitable protective clothing.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9 Physical and chemical properties**Appearance**

Physical state	Solid.
Form	Powder.
Color	Grey.
Odor	None.
Odor threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	1220 °F (660 °C) estimated / Not applicable.
Boiling point, initial boiling point, and boiling range	Not applicable.
Flash point	Not applicable.
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not applicable.
Explosive limit - lower (%) temperature	Not applicable.
Explosive limit - upper (%)	Not applicable.
Explosive limit - upper (%) temperature	Not applicable.

Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not applicable.
Density	13.57 g/cm ³ estimated
Solubility(ies)	
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	None known.
Other data	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Viscosity	Not applicable.

SECTION 10 Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Fluorine.
Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11 Toxicological information

Acute toxicity	Not known.
Routes of exposure	Inhalation.
Symptoms	Prolonged exposure may cause chronic effects.
Skin corrosion/irritation	Not likely, due to the form of the product.
Serious eye damage/eye irritation	None known.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitizer	Not a skin sensitizer.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
Toxic to reproduction	Not classified.
Specific target organ toxicity following single exposure	Not classified.
Specific target organ toxicity following repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Causes damage to organs through prolonged or repeated exposure.

SECTION 12 Ecological information**Ecotoxicological data**

Product	Species	Test Results
Tantalum Aluminum Targets		
Aquatic		
<i>Acute</i>		
Fish	LC50 Fish	1.9375 mg/l, 96 hours estimated
Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.	
Bioaccumulation	No data available.	
Mobility in soil	The product is immiscible with water and will spread on the water surface.	
Other hazardous effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

SECTION 13 Disposal considerations

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
Local disposal regulations	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14 Transport information**CNDG**

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15 Regulatory information**Law of the People's Republic of China on Prevention and Control of Occupational Diseases****Classification of occupational disease hazards**

ALUMINUM DUST (CAS 7429-90-5)

TANTALUM AND ITS COMPOUNDS (CAS 7440-25-7)

Regulations on the Control over Safety of Dangerous Chemicals**Catalog of Hazardous Chemicals**

ALUMINIUM POWDER (CAS 7429-90-5)

Provision on the Environmental Administration of New Chemical Substances**China Inventory of Existing Chemical Substances**

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Other regulations This safety data sheet conforms to the following laws, regulations and standards:
Measures for the Safe Use of Chemicals in Workplaces
General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009)
Regulations on Labor Protection in Workplaces Where Toxic Products Are Used
Packing Symbol of Dangerous Goods(GB190-2009)
Regulations on the Control over Safety of Dangerous Chemicals
Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)
Packing - Pictorial Marking for Handling of Goods (GB/T191-2009)

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

SECTION 16 Other information**References**

EPA: AQUIRE database
GB6944-2012: Classification and Code of Dangerous Goods.
GB12268-2012: List of Dangerous Goods.
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents

Further information

Transportation Emergency
Call Chemtrec at:
International: 703.741.5970
Spain: 900.868.538
Switzerland: 0800.564.402
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059

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Other information

Revised information in Section 16.