

**MATERION****1. Chemical and company identification**

Name of chemical (Product name) Tantalum Tungsten Product

Supplier's company name, address and phone number

Company name Materion Newton Inc.

Address 6070 Parkland Boulevard  
Mayfield Heights, OH 44124 United States

Contact person Theodore Knudson

Telephone 1+216.383.4019

Not available

e-mail address ehs@materion.com

Emergency telephone number See Section 16.

Reference number H05

**2. Hazards identification****GHS classification**

The product is not classified according to GHS.

**GHS label elements**

Pictograms None.

Signal words None.

Hazard statement The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated.

**Precautionary statement**

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification None known.

Supplemental information For further information, please contact the Product Stewardship Department at +1.216.383.4019.

**Main symptoms and emergency overview**

Main symptoms None known.

Emergency overview Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.

**3. Composition/information on ingredients**

Substance or mixture Mixture

Chemical name or generic name	CAS Number	Gazette notification		Concentration (%)
		ENCS no.	ISHL no.	
Tantalum	7440-25-7			97
Tungsten	7440-33-7			3

Chemical formula Ta (7440-25-7), W (7440-33-7)

**4. First aid measures**

If inhaled Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

If on skin Wash off with soap and water. Get medical attention if irritation develops and persists.

<b>If in eyes</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>If swallowed</b>	Rinse mouth. Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Under normal conditions of intended use, this material does not pose a risk to health.
<b>Protection of first-aid responders</b>	If you feel unwell, seek medical advice (show the label where possible).
<b>Notes to physician</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

## 5. Fire-fighting measures

<b>Extinguishing media</b>	Dry powder. Dry sand.
<b>Extinguishing media to avoid</b>	Carbon dioxide (CO <sub>2</sub> ).
<b>Specific hazards</b>	This product is not flammable.
<b>Special fire fighting procedures</b>	Move containers from fire area if you can do so without risk.
<b>Protection of fire-fighters</b>	Wear suitable protective equipment.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of dust. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.
<b>Methods and materials for containment and cleaning up</b>	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. 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. Following product recovery, flush area with water.  Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.  Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

## 7. Handling and storage

### Handling

<b>Technical measures (e.g. Local and general ventilation)</b>	Provide appropriate exhaust ventilation at places where dust is formed.
<b>Safe handling advice</b>	Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Avoid breathing dust. Avoid prolonged exposure. Practice good housekeeping. Use personal protection recommended in Section 8 of the SDS.
<b>Contact avoidance measures</b>	Fluorine.
<b>Hygiene measures</b>	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.

### Storage

<b>Safe storage conditions</b>	Store locked up. Keep container tightly closed. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).
<b>Safe packaging materials</b>	Store in original tightly closed container.

## 8. Exposure controls/personal protection

<b>Control parameters</b>	Follow standard monitoring procedures.
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## Occupational exposure limits

### Japan. OELs - JSOH (Japan Society of Occupational Health: Recommendation of Occupational Exposure Limits)

Components	Type	Value	Form
Tantalum (CAS 7440-25-7)	TWA	8 mg/m <sup>3</sup>	Total dust.
		2 mg/m <sup>3</sup>	Respirable dust.

### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Tungsten (CAS 7440-33-7)	TWA	3 mg/m <sup>3</sup>	Respirable fraction.

## 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

<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Hand protection</b>	Wear gloves to prevent metal cuts and skin abrasions during handling.
<b>Eye protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin and body protection</b>	Wear suitable protective clothing.

## 9. Physical and chemical properties

Physical state	Solid.
Form	Solid.
Color	Grey.
Odor	None.
Odor threshold	Not applicable.
Melting point/freezing point	3632 - 4532 °F (2000 - 2500 °C) estimated / Not applicable.
Boiling point, initial boiling point, and boiling range	7232 °F (4000 °C) estimated
Combustibility	Not applicable.
<b>Lower and upper explosion limit / flammability limit</b>	
Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Flammability limit - upper (%) temperature	Not applicable.
Explosive limit - lower (%)	Not applicable.
Explosive limit - lower (%) temperature	Not applicable.
Explosive limit - upper (%)	Not applicable.
Explosive limit - upper (%) temperature	Not applicable.
Flash point	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
pH	Not applicable.
Kinematic viscosity	Not available.
<b>Solubility(ies)</b>	
Solubility (water)	Insoluble.

<b>Partition coefficient (n-octanol/water) (log value)</b>	Not applicable.
<b>Vapor pressure</b>	0.00001 hPa estimated
<b>Density and/or relative density</b>	
<b>Density</b>	18.00 g/cm <sup>3</sup>
<b>Relative density</b>	Not applicable.
<b>Vapor density</b>	Not applicable.
<b>Particle characteristics</b>	Not available.
<b>Other information</b>	
<b>Evaporation rate</b>	Not applicable.
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.
<b>Viscosity (Coefficient of viscosity)</b>	Not applicable.

## 10. Stability and reactivity

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

## 11. Toxicological information

<b>Acute toxicity</b>	None known.
<b>Skin corrosion/irritation</b>	Not relevant, due to the form of the product.
<b>Serious eye damage/eye irritation</b>	Not likely, due to the form of the product.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	Not classifiable as to carcinogenicity to humans.
<b>Reproductive toxicity</b>	Not classified.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not an aspiration hazard.

## 12. Ecological information

<b>Ecotoxicity</b>	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.
<b>Persistence and degradability</b>	No data is available on the degradability of any ingredients in the mixture.
<b>Bioaccumulation</b>	No data available.
<b>Mobility in soil</b>	No data available for this product.
<b>Hazardous to the ozone layer</b>	No data available.
<b>Other hazardous effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

<b>Residual waste</b>	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).
<b>Contaminated packaging</b>	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.
<b>Local disposal regulations</b>	Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Dispose of contents/container in accordance with local/regional/national/international regulations. When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.

### 14. Transport information

<b>IATA</b>	Not regulated as dangerous goods.
<b>IMDG</b>	Not regulated as dangerous goods.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
<b>National regulations</b>	Follow regulation in section 15 for domestic transportation.

### 15. Regulatory information

#### Industrial Safety and Health Act

##### Notifiable substances

TANTALUM AND TANTALUM OXIDES	Table 9 Ordinance No. 338	97 %
TUNGSTEN AND TUNGSTEN COMPOUNDS, WATER-SOLUBLE	Table 9 Ordinance No. 337	3.0 %

##### Labeling substances

TANTALUM (POWDER)	97 %
TANTALUM AND TANTALUM OXIDES	97 %
TUNGSTEN (POWDER)	3.0 %
TUNGSTEN AND TUNGSTEN COMPOUNDS, WATER-SOLUBLE	3.0 %

#### Poisonous and Deleterious Substances Control Act

##### Specified poisonous substances

Not regulated.

##### Poisonous substances

Not regulated.

##### Deleterious substances

Not regulated.

#### Act on the Regulation of Manufacture and Evaluation of Chemical Substances

##### Class I specified chemical substances

Not regulated.

##### Class II specified chemical substances

Not regulated.

##### Monitoring chemical substances

Not regulated.

##### Priority Assessment Chemical Substances (PACs)

Not regulated.

##### Reporting Exempted Substances

Not regulated.

#### Law concerning Pollutant Release and Transfer Register

##### Specified class 1 substances (substance name, ordinance number and content)

Not regulated.

##### Class 1 substances (substance name, ordinance number and content)

Not regulated.

**Class 2 substances (substance name, ordinance number and content)**

Not regulated.

**Ship Safety Law, Dangerous Goods Marine Transport and Storage Rule**

Not regulated.

**Air Law, Enforcement Rule**

Not regulated.

**Explosives Control Act**

Not regulated.

**16. Other information**

**Bibliography**

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices  
HSDB® - Hazardous Substances Data Bank  
IARC Monographs. Overall Evaluation of Carcinogenicity  
Japan Chemical Industry Association (JCIA) GHS Guideline, June 2012  
Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits  
JIS Z 7252:2014 Classification of chemicals based on "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"  
JIS Z 7253:2012 Hazard communication of chemicals based on GHS - Labelling and Safety Data Sheet (SDS)  
National Toxicology Program (NTP) Report on Carcinogens

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