



MATERIAL SAFETY DATA SHEET

MATERION

1. Chemical product and company identification

A. Product name Tantalum Iridium Product

B. Recommended use and Limitations on use
Recommended use Not available.

C. Supplier information
Company name Materion Advanced Materials Group
Address 42 Mt. Ebo Road South
 Brewster NY 10509
 United States

Telephone Supplier Phone 1+845.279.0900
Email

Emergency telephone number Chemtrec 1+703.527.3887

MSDS number 371

2. Hazards identification

A. Hazard category/Classification
Physical hazards Not classified.
Health hazards Acute toxicity, oral Category 4
 Skin corrosion/irritation Category 2
 Serious eye damage/eye irritation Category 2
 Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
Environmental hazards Not classified.

B. Warning label items including precautionary statement
 • Pictogram None.
 • Signal word None.
 • Hazard statement None.
 • Precautionary statement None.

C. Other hazards not included in the hazard category criteria (e.g. dust explosion hazard) None known.

Supplemental information None.

3. Composition/information on ingredients

Chemical identity	Common and alternative names	CAS number	ID number	Content in percent (%)
Tantalum		7440-25-7	KE-33006	10 - 99.9
Iridium		7439-88-5	KE-21046	0.1 - 50

4. First aid measures

A. In case of eye contact Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.

B. In case of skin contact Not available.

C. In case of inhalation Move to fresh air. Call a physician if symptoms develop or persist.

D. In case of swallowing Not available.

E. Note to physician Not available.

5. Fire-fighting measures

A. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media Dry powder. Dry sand.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire. Carbon dioxide (CO₂).

B. Specific hazards arising from the chemical (example: hazardous combustion products) Not available.

C. Specific methods of fire-fighting Not available.

6. Accidental release measures

A. Personal precautions, protective equipment and emergency measures Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the MSDS.

B. Environmental precautions Avoid discharge into drains, water courses or onto the ground.

C. Methods and materials for containment and cleaning up Avoid the generation of dusts during clean-up. 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. For waste disposal, see section 13 of the MSDS.

7. Handling and storage

A. Precautions for safe handling Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Practice good housekeeping.

B. Conditions for safe storage (including any incompatibilities) Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the MSDS).

8. Exposure controls/personal protection

A. Exposure limit values, biological limit values, etc

Korea. OELs. Standards for Exposure to Chemical Substances and Physically Hazardous Factors

Components	Type	Value	Form
Tantalum (CAS 7440-25-7)	TWA	5 mg/m ³	Fume.

Biological limit values No biological exposure limits noted for the ingredient(s).

B. Appropriate engineering controls 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.

C. Personal protective equipment

• **Respiratory protection** Wear respirator with dust filter.

• **Eye protection** Wear safety glasses with side shields (or goggles).

• **Hand protection** Not available.

• **Body protection** Not available.

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.

9. Physical and chemical properties

A. Appearance

Physical state Solid.

Form Powder.

Color Not available.

B. Odor Not available.

C. Odor threshold	Not available.
D. pH	Not available.
E. Melting point/freezing point	
Melting point	4434.8 °F (2446 °C) estimated
Freezing point	4434.8 °F (2446 °C) estimated
F. Boiling point, initial boiling point, and boiling range	8002.4 °F (4428 °C) estimated
G. Flash point	Not available.
H. Evaporation rate	Not available.
I. Flammability (solid, gas)	Not available.
J. Upper/lower limit on flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
K. Vapor pressure	0.00001 hPa estimated
L. Solubility	
Solubility (water)	Not available.
M. Vapor density	Not available.
N. Specific gravity	17.84 estimated
O. n-octanol/water partition coefficient	Not available.
P. Auto-ignition temperature	Not available.
Q. Decomposition temperature	Not available.
R. Viscosity	Not available.
S. Molecular weight	Not available.
Other data	
Density	17.84 g/cm ³ estimated

10. Stability and reactivity

A. Stability and hazardous reaction potential	
Stability	Not available.
Hazardous reaction potential	Not available.
B. Conditions to avoid (e.g. static discharge, shock or vibration, etc)	Contact with incompatible materials.
C. Incompatible materials	Strong oxidizing agents. Fluorine.
D. Hazardous decomposition products	Not available.

11. Toxicological information

A. Information on likely routes of exposure	
• Respiratory organs	Dust may irritate respiratory system.
• Skin	Dust or powder may irritate the skin.
• Eyes	Dust may irritate the eyes.
• Mouth	Not available.
B. Information on health hazards	
• Acute toxicity (list all possible routes of exposure)	No data available.

• Corrosivity or irritation to the skin	Not available.
• Serious eye damage/eye irritation	Not available.
• Respiratory sensitization	Not available.
• Skin sensitization	Not available.
• Carcinogenic properties /Carcinogenicity	Not available.
• Mutagenic properties /Mutagenicity	Not available.
• Reproductive toxicity	Not available.
• Specific target organ toxicity - single exposure	Not available.
• Specific target organ toxicity - repeated exposure	Not available.
• Aspiration hazard	Not available.

12. Ecological information

A. Ecotoxicity	No data available.
B. Persistence/degradability	Not available.
C. Bioaccumulative potential	Not available.
D. Mobility in soil	Not available.
E. Other adverse effects	Not available.

13. Disposal considerations

A. Method of disposal	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
B. Disposal considerations (including disposal of contaminated containers or 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.
Waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

14. Transport information

IATA	
A. UN number	Not applicable.
B. UN proper shipping name	Not applicable.
C. Transport hazard class(es)	
Class	Not applicable.
Subsidiary risk	-
D. Packing group	Not applicable.
E. Environmental hazards	No.
F. Special precautions for user	Not applicable.
IMDG	
A. UN number	Not applicable.
B. UN proper shipping name	Not applicable.
C. Transport hazard class(es)	
Class	Not applicable.
Subsidiary risk	-
D. Packing group	Not applicable.
E. Environmental hazards	
Marine pollutant	No.
EmS	Not applicable.
F. Special precautions for user	Not applicable.

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

15. Regulatory information

A. Restrictions under the Industrial Safety and Health Law

Harmful Substances Prohibited from Manufacturing

Not regulated.

Harmful Substances Requiring Permission for Manufacture or Use

Not regulated.

Controlled Hazardous Substances

Not regulated.

Harmful Substances Requiring Special Medical Examination

Not regulated.

Workplace Environmental Monitoring Harmful Materials

Not regulated.

Occupational Exposure Limit

Tantalum (CAS 7440-25-7)

B. Restrictions under the Chemicals Control Law (Previously Toxic Chemicals Control Law)

Accidental Release Prevention Substances

Not regulated.

Observational Chemicals

Not regulated.

C. Restrictions under the Dangerous Substance Safety Management Act

D. Restrictions under the Wastes Control Act

Halogenated Materials in Waste Organic Solvents

Not regulated.

Hazardous Substances

Not regulated

E. Restrictions under other foreign or domestic laws

Clean Air Conservation Act

Air Pollutants

Not regulated.

Specific Air Pollutants

Not regulated.

Act on the Registration and Evaluation of Chemicals

Banned Toxic Chemicals

Not regulated.

Designated Existing Chemicals Subject to Registration (PEC) (MoE No. 2015-92)

Not listed.

Restricted Chemical Substances

Not regulated.

Toxic Chemicals

Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Korea	Existing Chemicals List (ECL)	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).

16. Other information

A. Source of information Not available.

B. Issue date	01-20-2017
C. Number of revisions and date of most recent revision	Not applicable.
Other information	Not available.
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