



CHEMICAL PRODUCT SAFETY DATA SHEET

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

MATERION

Product name: Iridium Ruthenium Targets

Issue date: 10-31-2018

Revision date: 06-28-2021

Version #: 03

SDS No: G07

SECTION 1 Chemical product and company identification

Chinese name of chemical	铱钉目标	
English name of chemical	Iridium Ruthenium 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	10-31-2018	
Revision date	06-28-2021	
Supersedes date	06-24-2021	
SDS No	G07	

SECTION 2 Hazards identification

Emergency overview	The products are classified as articles and, as such, do not present a physical or health hazard in the present form. If the products are processed or handled in ways that generate particles (dust, fume, particles or powder) and/or chemical compounds, a potential health hazard could exist and risk management measures must be taken to minimize risk.
GHS hazard categories	Not classified.
Label elements	
Pictograms	None.
Signal word	None.
Hazard statement	None.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements. Refer to manufacturer/supplier for information on recovery/recycling.
P502	
Physical and chemical hazards	Not available.
Health hazards	Not available.
Environmental hazards	Not available.
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
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Chemical name	Concentration (%)	CAS Number
铱 Iridium	30 - 70	7439-88-5
钌 Ruthenium	30 - 70	7440-18-8

SECTION 4 First aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops or persists.
Ingestion	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms and health effects	None known.
Personal protection for first-aid responders	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	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Extinguishing media to avoid	Do not use water as an extinguisher.
Specific hazards	This product is not flammable.
Special fire fighting procedures	Use water spray to cool unopened containers.
Protection of fire-fighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
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. In solid form this material poses no special clean-up problems.
For emergency responders	Keep unnecessary personnel away.
Environmental precautions	Prevent further leakage or spillage if safe to do so.
Clean-up methods and materials and containment measures	Clean up in accordance with all applicable regulations.
Prevention of secondary hazards	Not available.

SECTION 7 Handling and storage

Handling	Observe good industrial hygiene practices.
Storage	Not available.

SECTION 8 Exposure controls/personal protection

Exposure limits

No exposure limits noted for ingredient(s).

Biological limit values	No biological exposure limits noted for the ingredient(s).
Monitoring methods	Follow standard monitoring procedures.
Engineering measures	Good general ventilation (typically 10 air changes per hour) 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.
Personal protective equipment	
Respiratory protection	No personal respiratory protective equipment normally required. 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.

SECTION 9 Physical and chemical properties

Appearance

Physical state	Solid.
Form	Solid.
Color	Grey metallic.
Odor	None.
Odor threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	4434.8 °F (2446 °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	22.42 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	Strong oxidizing agents.

Hazardous decomposition products No hazardous decomposition products are known.

SECTION 11 Toxicological information

Acute toxicity Due to lack of data the classification is not possible.

Routes of exposure Not available.

Symptoms None known.

Skin corrosion/irritation Not relevant, due to the form of the product.

Serious eye damage/eye irritation Not likely, due to the form of the product.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitizer This product is not expected to cause skin sensitization.

Germ cell mutagenicity Not classified.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Toxic to reproduction This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity following single exposure Not classified.

Specific target organ toxicity following repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Not available.

Other information Not applicable.

SECTION 12 Ecological information

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 Not available.

Bioaccumulation Not available.

Mobility in soil Not available.

Other hazardous effects Not available.

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.

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 available.

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

Not regulated.

Regulations on the Control over Safety of Dangerous Chemicals

Not regulated.

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)	No

*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:

Regulations on the Control over Safety of Dangerous Chemicals

Regulations on Labor Protection in Workplaces Where Toxic Products Are Used

Measures for the Safe Use of Chemicals in Workplaces

Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)

General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009)

Packing Symbol of Dangerous Goods(GB190-2009)

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**

Not available.

Further information

Transportation Emergency

Call Chemtrec at:

International: 703.741.5970

Spain: 900.868.538

Switzerland: 0800.564.402

Disclaimer

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Other information

Revised information in Section 16.