



CHEMICAL PRODUCT SAFETY DATA SHEET

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

MATERION

Product name: Niobium Oxide/Zirconium Oxide Targets

Issue date: 06-24-2019

Version #: 01

SDS No: G45

SECTION 1 Chemical product and company identification

Chinese name of chemical	氧化铌/氧化锆目标
English name of chemical	Niobium Oxide/Zirconium Oxide Targets
Manufacturer/Supplier	Materion Advanced Materials Germany GmbH
Address	Borsigstrasse 10 Alzenau, 63755 Germany
Contact person	Hermann Schmiing
Telephone	49.60.23.91.82.0
e-mail	Materion.Germany@materion.com
Emergency telephone number	49.60.23.91.82.0
Issue date	06-24-2019
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SECTION 2 Hazards identification

Emergency overview	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.
Hazard categories	Not classified.
Label elements	
Pictograms	None.
Signal word	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 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.
Health hazards	Not classified.
Environmental hazards	The product is not expected to be hazardous to 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
Niobium Oxide		50	12034-57-0

Chemical name

Zirconium Oxide	50	1314-23-4
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SECTION 4 First aid measures

Inhalation	Call a physician if symptoms develop or persist.
Skin contact	Get medical attention if irritation develops and persists.
Eye contact	Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical advice/attention if you feel unwell.
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.

SECTION 5 Fire-fighting measures

Extinguishing media	Powder. Dry sand.
Extinguishing media to avoid	Water.
Specific hazards	This product is not flammable.
Special fire fighting procedures	Use fire-extinguishing media appropriate for surrounding materials. Wear suitable protective equipment.
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. Wear appropriate personal protective equipment. For personal protection, see section 8 of the SDS.
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For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
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Environmental precautions	Collect spillage.
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Clean-up methods and materials and containment measures	Collect spillage. Collect and dispose of spillage as indicated in section 13 of the SDS.
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Prevention of secondary hazards	Not available.
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SECTION 7 Handling and storage

Handling	Wash thoroughly after handling. Observe good industrial hygiene practices.
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Storage	Store away from incompatible materials (see Section 10 of the SDS).
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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
Zirconium Oxide (CAS 1314-23-4)	PC-STEL	10 mg/m ³
	PC-TWA	5 mg/m ³

Biological limit values	No biological exposure limits noted for the ingredient(s).
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Exposure guidelines	This material does not have established exposure limits.
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Monitoring methods	Not available.
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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.
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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	Use personal protective equipment as required.

SECTION 9 Physical and chemical properties**Appearance**

Physical state	Solid.
Form	Solid.
Color	Silver.
Odor	None.
Odor threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	3992 - 4352 °F (2200 - 2400 °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	8.10 - 8.40 g/cm ³
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 bases. Strong oxidizing agents. Halogens.

Hazardous decomposition products No hazardous decomposition products are known.

SECTION 11 Toxicological information

Acute toxicity None known.

Routes of exposure Not established.

Symptoms None known.

Skin corrosion/irritation Not classified.

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 Not a skin sensitizer.

Germ cell mutagenicity Not classified.

Carcinogenicity Not classified.

Toxic to reproduction Not classified.

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 No data recorded.

SECTION 12 Ecological information

Ecotoxicity Not available.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulation No data available.

Mobility in soil Not applicable.

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. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. 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

Zirconium Oxide (CAS 1314-23-4)

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:
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
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents

Disclaimer

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