



CHEMICAL PRODUCT SAFETY DATA SHEET

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

MATERION

Product name: Titanium Product

Issue date: 03-28-2022

Version #: 01

SDS No: G49

SECTION 1 Chemical product and company identification

| | | |
|----------------------------|--|----------------|
| Chinese name of chemical | 钛产品 | |
| English name of chemical | Titanium Product | |
| 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 | 03-28-2022 | |
| SDS No | G49 | |

SECTION 2 Hazards identification

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 and/or powder), a potential health hazard could exist and risk management measures must be taken to minimize risk.

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| 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. |
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GHS hazard categories

| | | |
|-----------------------|-------------------|------------|
| Physical hazards | Flammable solids | Category 1 |
| | Pyrophoric solids | Category 1 |
| Health hazards | Not classified. | |
| Environmental hazards | Not classified. | |

Label elements

| | |
|-------------|-------|
| Pictograms | None. |
| Signal word | None. |

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| 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. |
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Precautionary statement

| | |
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| 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. |

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| 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. |
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| Health hazards | Not available. |
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| 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. |
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| Supplemental information | For further information, please contact the Product Stewardship Department at +1.216.383.4019. |
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SECTION 3 Composition/information on ingredients

| Substance/mixture | Substance | Concentration (%) | CAS Number |
|-------------------------|-----------|-------------------|------------|
| 钛产品 Titanium Product | | 100 | 7440-32-6 |

SECTION 4 First aid measures

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| 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 | 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 | Direct contact with eyes may cause temporary irritation. |
| 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

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| Extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). |
| Extinguishing media to avoid | None known. |
| Specific hazards | None known. |
| Special fire fighting procedures | Use water spray to cool unopened containers. |
| 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

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| Personal precautions, protective equipment and emergency procedures | |
| For non-emergency personnel | Keep unnecessary personnel away. For personal protection, see section 8 of the PIS. |
| For emergency responders | Use personal protection recommended in Section 8 of the PIS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |
| Clean-up methods and materials and containment measures | Stop the flow of material, if this is without risk. For waste disposal, see section 13 of the PIS. |
| Prevention of secondary hazards | Not available. |

SECTION 7 Handling and storage

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| Handling | Observe good industrial hygiene practices. |
| Storage | Keep locked up. |

SECTION 8 Exposure controls/personal protection

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| 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 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 | In case of insufficient ventilation, wear suitable respiratory equipment. |

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| 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

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| Physical state | Solid. |
| Form | Solid. |
| Color | Silver |
| Odor | None. |
| Odor threshold | Not applicable. |
| pH | Not applicable. |
| Melting point/freezing point | 3034.4 °F (1668 °C) / Not applicable. |
| Boiling point, initial boiling point, and boiling range | Not applicable. |
| Flash point | Not applicable. |
| Flammability limit - lower (%) | Not applicable. |
| Flammability limit - lower (%) temperature | 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. |
| Vapor pressure | < 0.0000001 kPa (77 °F (25 °C)) |
| Vapor density | Not applicable. |
| Relative density | Not applicable. |
| Density | 4.51 g/cm ³ estimated at 20 °C |
| 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. |
| Flammability | Not applicable. |
| Molecular formula | Ti |
| Molecular weight | 47.9 g/mol |
| Oxidizing properties | Not oxidizing. |
| Viscosity | Not applicable. |

SECTION 10 Stability and reactivity

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| 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 | Ammonia. Chlorine. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

SECTION 11 Toxicological information

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| Acute toxicity | None known. |
| Routes of exposure | Not available. |
| Symptoms | None known. |
| Skin corrosion/irritation | Not classified. |
| 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 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 | None known. |

SECTION 12 Ecological information

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| 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 | No data available for this product. |
| 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

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| 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 applicable.

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**Catalog of Hazardous Chemicals**

TITANIUM METAL POWDER [CONTAINING WATER NOT LESS THAN 25%, PARTICLE SIZE IS LESS THAN 53 MICRONS IF PRODUCED BY MECHANICALLY; PARTICLE SIZE IS LESS THAN 840 MICRONS IF PRODUCED BY CHEMICAL METHODS] (CAS 7440-32-6)

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:
US: 800.424.9300
International: 703.741.5970
Spain: 900.868.538
Switzerland: 0800.564.402
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059
South Korea Toll-free Number – 080-880-0468

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