



MATERION

Product name: Zinc Tin Targets

CHEMICAL PRODUCT SAFETY DATA SHEET

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

Issue date: 12-05-2019
Revision date: 08-24-2021
Version #: 02
SDS No: G40

SECTION 1 Chemical product and company identification

| | |
|----------------------------|--|
| Chinese name of chemical | 锌锡靶 |
| English name of chemical | Zinc Tin 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 | 12-05-2019 |
| Revision date | 08-24-2021 |
| Supersedes date | 12-05-2019 |
| SDS No | G40 |

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. |
| GHS 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. No unusual fire or explosion hazards noted. |
| Health hazards | None known. |
| 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. |
| 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 |
|---------------|-------------------|------------|
| 锌 Zinc | 50 - 99 | 7440-66-6 |
| 锡 Tin | 1 - 50 | 7440-31-5 |

SECTION 4 First aid measures

| | |
|---|---|
| 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. |
| Most important symptoms and health effects | None known. |
| Personal protection for first-aid responders | If exposed or concerned: get medical attention/advice. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. |
| Notes to physician | Treat symptomatically. |

SECTION 5 Fire-fighting measures

| | |
|---|--|
| Extinguishing media | Powder. Dry sand. Extinguish with alcohol-resistant foam, carbon dioxide or dry powder. |
| Extinguishing media to avoid | Water. Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards | This product is not flammable. |
| Special fire fighting procedures | Use standard firefighting procedures and consider the hazards of other involved materials. |
| Protection of fire-fighters | Use protective equipment appropriate for surrounding materials. |
| General fire hazards | No unusual fire or explosion hazards noted. None known. |
| 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. Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area. |
| For emergency responders | Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Use personal protection recommended in Section 8 of the SDS. |

| | |
|--|---|
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. Collect spillage. |
| Clean-up methods and materials and containment measures | Stop the flow of material, if this is without risk. Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS. |
| Prevention of secondary hazards | None known. |

SECTION 7 Handling and storage

| | |
|-----------------|---|
| Handling | Do not taste or swallow. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. |
| Storage | Keep container tightly closed. Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures. |

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)

| Material | Type | Value |
|------------------|--------|------------|
| Zinc Tin Targets | PC-TWA | 0.05 mg/m3 |

| | |
|--------------------------------------|---|
| 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. |
| Hand protection | Wear gloves to prevent metal cuts and skin abrasions during handling. |
| Eye protection | If contact is likely, safety glasses with side shields are recommended. |
| Skin and body protection | Wear suitable protective clothing. Use of an impervious apron is recommended. |
| Hygiene measures | Keep away from food and drink. 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

| | |
|--|--|
| Physical state | Solid. |
| Form | Solid. |
| Color | Grey. |
| Odor | None. |
| Odor threshold | Not applicable. |
| pH | Not applicable. |
| Melting point/freezing point | 449.42 °F (231.9 °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 | 7.18 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 Acids. Chlorine.

Hazardous decomposition products No hazardous decomposition products are known.

SECTION 11 Toxicological information

Acute toxicity None known.

Routes of exposure Inhalation. Ingestion.

Symptoms None known.

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

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 Causes damage to organs (Respiratory system) through prolonged or repeated exposure.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. Causes damage to organs through prolonged or repeated exposure. None known.

SECTION 12 Ecological information

Ecotoxicological data

| Product | Species | Test Results |
|------------------|--------------|---------------------------------|
| Zinc Tin Targets | | |
| Aquatic | | |
| <i>Acute</i> | | |
| Crustacea | EC50 Daphnia | 1.4141 mg/l, 48 hours estimated |
| Fish | LC50 Fish | 0.2727 mg/l, 96 hours estimated |

| Components | Species | Test Results |
|----------------------|--|----------------------------|
| Zinc (CAS 7440-66-6) | | |
| Aquatic | | |
| <i>Acute</i> | | |
| Fish | LC50 Bony fish superclass (Osteichthyes) | 0.52 - 3.59 mg/l, 96 hours |

Ecotoxicity Very toxic to aquatic life. Not relevant, due to the form of the product.

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulation No data available.

Mobility in soil The product is insoluble in water.

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. 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

DUST FROM TIN AND ITS COMPOUNDS (CAS 7440-31-5)

Regulations on the Control over Safety of Dangerous Chemicals

Catalog of Hazardous Chemicals

ZINC ASHES (CAS 7440-66-6)

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

Zinc (CAS 7440-66-6)

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:
International: 703.741.5970
Spain: 900.868.538
Switzerland: 0800.564.402

Disclaimer

This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.

Other information

Revised information in Section 16.