



# SAFETY DATA SHEET

**MATERION**

## 1. Identification of the chemical and information about the manufacturer or supplier

### 1.1 Identification of the chemical products

1.1.1 Technical name      **Zinc Tin Targets**

### Other means of identification

SDS number                      G40

### 1.1.2 Recommended use of the chemical and restrictions on use

**Recommended use**            Manufacture of computer, electronic and optical products, electrical equipment  
Scientific research and development  
Other: Manufacture of medical and defense equipment

**Limitations on use**            Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  
Consumer uses: Private households (= general public = consumers)

### 1.2 Manufacturer/Importer/Supplier/Distributor information

#### 1.2.1 Manufacturer

**Company name**                      Materion Advanced Materials

1.2.2 Address (post and legal)    6070 Parkland Boulevard  
Mayfield Heights, OH 44124  
United States

**Website**                                www.materion.com

**Contact person**                      Theodore Knudson

#### 1.2.3 Telephone, including Emergency consultations and time limits

**Telephone**                              EH&S                                      1.216.383.4019

**Emergency phone  
number**                                  See Section 16.

#### 1.2.4 Fax

1.2.5 E-mail                              ehs@materion.com

## 2. Hazard(s) identification

### 2.1. Hazard identification of chemical product as a whole (classification according to GOST 12.1.007-76 and GHS)

**Classification according to  
GOST 12.1.007-76**                      Not available.

### GHS classification

**Physical hazards**                      Not classified.

**Health hazards**                        Not classified.

**Environmental hazards**              Not classified.

### 2.2 Labeling elements in compliance with GOST 31340-2013

2.2.1 Signal word                      None.

2.2.2 Symbols                            None.

2.2.3 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.

**Other hazards**                            None known.

### 3. Composition/information on ingredients

#### 3.1 Information on product as a whole

3.1.1 Chemical name (IUPAC)	None.
3.1.2 Chemical formula	Not available.
3.1.3 General description of the composition (taking into account the brand assortment; preparation method)	Not available.

#### 3.2 Components

Components	Hygienic standards in the working area				CAS-No.	EC No.
	Concentration by weight (%)	MAC, mg/m <sup>3</sup>	TSEL, mg/m <sup>3</sup>	Hazard classification		
Zinc	50 - 99	None.	None.		7440-66-6	231-175-3
Tin	1 - 50	None.	None.		7440-31-5	231-141-8

### 4. First-aid measures

#### 4.1. Observed symptoms

4.1.1 In case of exposure via inhalation	No adverse effects due to inhalation are expected.
4.1.2 In contact with skin	No adverse effects due to skin contact are expected.
4.1.3 In contact with eyes	Direct contact with eyes may cause temporary irritation.
4.1.4 In case of exposure via ingestion	Expected to be a low ingestion hazard.

#### 4.2 First-aid measures to be provided to victims

4.2.1 In case of exposure via inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
4.2.2 In contact with skin	Get medical attention if irritation develops and persists.
4.2.3 In contact with eyes	Get medical attention if irritation develops and persists.
4.2.4 In case of exposure via ingestion	Rinse mouth. Get medical attention if symptoms occur.
4.2.5 Contraindications	Not available.

#### General advice

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting and explosion safety measures and means

5.1 General characteristics of fire-explosion properties	No unusual fire or explosion hazards noted.
5.2 Fire-explosion indicators	None known.
5.3 Combustion and/or thermal destruction products and hazards arising from these	No unusual fire or explosion hazards noted.
5.4 Recommended extinguishing media	Foam. Dry chemical powder. Dry sand. Carbon dioxide (CO <sub>2</sub> ). Dry chemical, soda ash, lime or DRY sand.
5.5 Forbidden extinguishing media	Water.
5.6 Special protective equipment for firefighters	Wear suitable protective equipment.
5.7 Specific extinguishing methods	Use standard firefighting procedures and consider the hazards of other involved materials.
Special fire fighting procedures	Use standard firefighting procedures and consider the hazards of other involved materials.

## 6. Accident and emergency prevention and response measures and their consequences

### 6.1 Measures to prevent harmful effects on people, environment, buildings, constructions, etc. in case of accidents and emergencies

- 6.1.1 General required actions in case of an accident or emergency** Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
- 6.1.2 Personal protection equipment in case of the accident** Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

### 6.2 Procedures for the elimination of accidents and emergencies

- 6.2.1 Procedures in case of leaks, spills, splashes** Clean up in accordance with all applicable regulations.
- 6.2.2 Actions in case of fire** For detailed information see section 5.

#### Methods and materials for containment and cleaning up

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 SDS.

#### Environmental precautions

Prevent further leakage or spillage if safe to do so.

## 7. Storage and handling requirements of chemicals during loading and unloading

### 7.1 Safety precautions when handling chemical products

- 7.1.1 Technical safety measures** No specific recommendations.
- 7.1.2 Environmental protection measures** Avoid release to the environment.
- 7.1.3 Recommended safe handling and transportation advice** Observe good industrial hygiene practices. Use personal protection recommended in Section 8 of the SDS.
- Local and general ventilation** Provide adequate ventilation.

### 7.2 Chemical storage requirements

- 7.2.1 Terms and conditions for safe storage** Not available.
- 7.2.2 Packaging** Keep locked up.

### 7.3 Safety measures and storage requirements at domestic use

No specific recommendations.

## 8. Equipment for monitoring exposure and personal protective equipment

### 8.1 Parameters of the working area that require monitoring

#### Occupational exposure limits

Hygiene Norm GN 2.2.5.1313-03. Executive No. 76 of 30 April 2003. Maximum allowable concentration (MAC) of harmful substances in the air of working zones, as amended

Material	Type	Value	Form
Zinc Tin Targets	Ceiling	6 mg/m3	Aerosol.
	TWA	2 mg/m3	Aerosol.

### 8.2 Measures to ensure the content of harmful substances in the working area below the exposure level concentration

Not available.

### 8.3 Worker personal protective equipment

- 8.3.1 General recommendations** Use personal protective equipment as required.
- 8.3.2 Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

### 8.3.3 Protective equipment

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

**Hand protection** Wear appropriate chemical resistant gloves.

**Other** Wear suitable protective clothing.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**8.3.4 Personal protection equipment in case of domestic use** Not applicable.

## 9. Physical and chemical properties

### 9.1 Physical appearance

**Physical state** Solid.

**Form** Solid.

**Color** Grey.

**Odor** None.

**Odor threshold** Not applicable.

### 9.2 Parameters characterizing basic properties of the product

**pH** Not applicable.

**Melting point/freezing point** 449,42 °F (231,9 °C) estimated / Not applicable.

**Initial boiling point and boiling range** Not applicable.

**Flash point** Not applicable.

**Auto-ignition temperature** Not applicable.

**Decomposition temperature** Not applicable.

#### Upper/lower flammability or explosive limits

**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.

**Density** 7,18 g/cm<sup>3</sup> estimated

**Viscosity** Not applicable.

#### Solubility(ies)

**Solubility (water)** Insoluble.

**Partition coefficient (n-octanol/water)** Not applicable.

#### Other data

**Explosive properties** Not explosive.

**Evaporation rate** Not applicable.

**Flammability (solid, gas)** None known.

**Oxidizing properties** Not oxidizing.

## 10. Stability and reactivity

**10.1 Chemical stability** Material is stable under normal conditions.

**Hazardous decomposition products** No hazardous decomposition products are known.

**10.2 Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**10.3 Conditions to avoid** Contact with incompatible materials.

**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.

Incompatible materials Strong oxidizing agents.

## 11. Toxicological information

- 11.1 General exposure characteristics** Direct contact with eyes may cause temporary irritation.
- 11.2 Routes of exposure** None known.
- 11.3 Affected/target organs, tissues and systems of humans**
- Specific target organ toxicity - single exposure** Not classified.
- Specific target organ toxicity - repeated exposure** Not classified.
- 11.4 Information on health hazards in case of direct exposure to the product and its effect**
- Effect on upper respiratory tract irritation** None known.
- Respiratory or skin sensitization** Not available.
- Respiratory sensitization** Not a respiratory sensitizer.
- Skin sensitization** This product is not expected to cause skin sensitization.
- Skin corrosion/irritation** Not likely, due to the form of the product.
- Serious eye damage/eye irritation** None known.
- Aspiration hazard** Not an aspiration hazard.
- 11.5 Information on long-term hazardous health effects**
- Carcinogenicity** Not classifiable as to carcinogenicity to humans.
- Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.
- Mutagenicity** Not classified.
- Cumulativeness** Not available.
- Chronic effects** None known.
- 11.6 Acute toxicity data** Not known.

## 12. Environmental impact information

- 12.1 General description of the impact on the environment** 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.
- 12.2 Routes of exposure to environment** None known.
- 12.3 The most important characteristics of the environmental impact**
- 12.3.1 Hygienic standards** Not available.
- 12.3.2 Ecotoxicity** Not expected to be harmful to aquatic organisms.

Product		Species	Test Results
Zinc Tin Targets			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Daphnia	1,4141 mg/l, 48 hours estimated
Fish	LC50	Fish	0,2727 mg/l, 96 hours estimated
<b>Components</b>		<b>Species</b>	<b>Test Results</b>
Zinc (CAS 7440-66-6)			
<b>Aquatic</b>			
<i>Acute</i>			
Fish	LC50	Bony fish superclass (Osteichthyes)	0,52 - 3,59 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

### 12.3.3 Biomigration and transformation of the environment due to the biodegradation or other processes

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

**Bioaccumulative potential** No data available.

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Recommendations for waste (residues) disposal

**13.1 Safety precautions when handling the waste generated during use, storage, transportation** Consult authorities before disposal. 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.

**13.2 Information on the location and disposal methods, recycling or disposal of product waste, including packaging** Dispose in accordance with all applicable regulations.

**13.3 Recommendation on the waste disposal generated during its domestic use** 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 from residues / unused products** 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).

## 14. Transport information

### ADR

Not regulated as dangerous goods.

### IATA

**UN number** UN3077  
**UN proper shipping name** Environmentally hazardous substance, solid, n.o.s.  
**Transport hazard class(es)**  
**Class** 9  
**Subsidiary risk** -  
**Packing group** III  
**Environmental hazards** No.  
**ERG Code** 9L  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.  
**Other information**  
**Passenger and cargo aircraft** Allowed with restrictions.  
**Cargo aircraft only** Allowed with restrictions.

### IMDG

**UN number** UN3077  
**UN proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
**Transport hazard class(es)**  
**Class** 9  
**Subsidiary risk** -  
**Packing group** III  
**Environmental hazards**  
**Marine pollutant** No.  
**EmS** F-A, S-F  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

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



<b>Version #</b>	02
<b>Previous SDS number</b>	Revised information in Section 16.
<b>Revision information</b>	Product and Company Identification: Product and Company Identification Other information: Further information Other information: Previous SDS number
<b>16.2 List of references used in compiling the safety data sheet</b>	GOST 19433-88. Dangerous goods. Classification and marking. GOST 12.1.004-91. Occupational safety standards system. Fire safety. General requirements. GOST 12.1.044-89. Occupational safety standards system. Fire and explosion hazard of substances and materials. Nomenclature of substances and materials. Nomenclature of indices and methods of their determination. GOST 31340-2013 Labeling of chemicals. General requirements. GOST 32419-2013 Classification of chemical products. General requirements. GOST 30333-2007 Chemical production safety passport. General requirements. GOST 32424-2013 Classification of chemicals for environmental hazards. General principles. GOST 12.1.007-76 Occupational safety standard system. Noxious substances. Classification and general safety requirements. Hygiene Norm GN 2.2.5.1313-03. Executive No. 76 of 30 April 2003. Maximum allowable concentration (MAC) of harmful substances in the air of working zones, as amended.
<b>Further information</b>	Transportation Emergency Call Chemtrec at: International: 703.741.5970 Spain: 900.868.538 Switzerland: 0800.564.402
<b>List of abbreviations</b>	Not available.
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