



# SAFETY DATA SHEET

**MATERION**

## 1. Product and company identification

Name of the chemical	Tin Antimony Targets	
Other means of identification		
SDS number	G27	
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	
Recommended restrictions	Professional uses: Public domain (administration, education, entertainment, services, craftsmen) Consumer uses: Private households (= general public = consumers)	
Manufacturer/Importer/Supplier/ Distributor information	Materion Advanced Materials	
Address	6070 Parkland Boulevard Mayfield Heights OH 44124 United States	
Telephone	EH&S	1.216.383.4019
E-mail	ehs@materion.com	
Contact person	Theodore Knudson	
Emergency telephone number	See Section 16.	

## 2. Hazards identification

Hazard classification		
Physical hazards	Not classified.	
Health hazards	Not classified.	
Environmental hazards	Not classified.	
Label elements		
Symbols	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	Get medical advice/attention if you feel unwell. Wash hands after handling.	
Storage	Store away from incompatible materials.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Other hazards	None known.	
Supplemental information	For further information, please contact the Product Stewardship Department at +1.216.383.4019.	

## 3. Composition/information on ingredients

Mixture		
Chemical properties	CAS Number	Concentration (%)
Tin	7440-31-5	95 - 97
Antimony	7440-36-0	3 - 5

## 4. First aid measures

First aid measures for different exposure routes	
Inhalation	Not available.

<b>Skin contact</b>	Not available.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.
<b>Most important symptoms and effects</b>	None known.
<b>Personal protection for first-aid responders</b>	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.
<b>Notes to physician</b>	Treat symptomatically.

## 5. Fire-fighting measures

<b>Extinguishing media</b>	Powder. Dry sand. Extinguish with alcohol-resistant foam, carbon dioxide or dry powder.
<b>Extinguishing media to avoid</b>	Water.
<b>Specific hazards during fire fighting</b>	This product is not flammable.
<b>Special fire fighting procedures</b>	Use standard firefighting procedures and consider the hazards of other involved materials. Use water spray to cool unopened containers.
<b>Protection of fire-fighters</b>	Use protective equipment appropriate for surrounding materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted. None known.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

## 6. Accidental release measures

<b>Personal precautions</b>	Keep unnecessary personnel away. Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area. For personal protection, see section 8 of the SDS.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground. Collect spillage.
<b>Spill cleanup methods</b>	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.

## 7. Handling and storage

<b>Handling</b>	Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
<b>Storage</b>	Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures.

## 8. Exposure controls/personal protection

### Exposure limits

#### OELs. (Standards on Workplace Atmosphere of Dangerous and Hazardous Materials)

Material	Type	Value
Tin Antimony Targets	STEL	2 mg/m <sup>3</sup>
	TWA	1 mg/m <sup>3</sup>
Components	Type	Value
Antimony (CAS 7440-36-0)	STEL	1.5 mg/m <sup>3</sup>
	TWA	0.5 mg/m <sup>3</sup>
Tin (CAS 7440-31-5)	STEL	4 mg/m <sup>3</sup>
	TWA	2 mg/m <sup>3</sup>

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Antimony (CAS 7440-36-0)	TWA	0.5 mg/m <sup>3</sup>	
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	Inhalable fraction.

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Appropriate engineering controls</b>	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.

## Individual protection measures, such as personal protective equipment

<b>Eye/face protection</b>	If contact is likely, safety glasses with side shields are recommended.
<b>Skin protection</b>	
<b>Hand protection</b>	Wear gloves to prevent metal cuts and skin abrasions during handling.
<b>Other</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** 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.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Solid.
<b>Color</b>	Gray-silver

**Odor** None.

**Odor threshold** Not applicable.

**Melting point/freezing point** 449.42 °F (231.9 °C) estimated / Not applicable.

**pH** Not applicable.

**Boiling point, initial boiling point, and boiling range** Not applicable.

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

**Flash point** Not applicable.

**Decomposition temperature** Not applicable.

**Auto-ignition temperature** Not applicable.

### Upper/lower flammability or explosive limits

**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** Not applicable.

**Vapor density** Not applicable.

**Density** 7.24 g/cm<sup>3</sup> estimated

### Solubility(ies)

**Solubility (water)** Insoluble.

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

**Evaporation rate** Not applicable.

### Other data

**Explosive properties** Not explosive.

**Oxidizing properties** Not oxidizing.

Viscosity Not applicable.

## 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. Strong oxidizing agents. Chlorine.

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

## 11. Toxicological information

### Information on likely routes of exposure

**Inhalation** No adverse effects due to inhalation are expected.

**Skin contact** No adverse effects due to skin contact are expected.

**Eye contact** Not likely, due to the form of the product.

**Ingestion** Expected to be a low ingestion hazard.

**Symptoms** None known.

### Information on toxicological effects

**Acute toxicity** Not 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 sensitization** Not a skin sensitizer.

**Germ cell mutagenicity** Not classified.

**Carcinogenicity** Not classified.

**Reproductive toxicity** Not classified.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** None known.

## 12. Ecological information

**Ecotoxicity** 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** 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.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

**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** Dispose in accordance with all applicable regulations.

## 14. Transport information

### 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.

## 15. Regulatory information

**Applicable regulations** Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste  
Regulations for the Labeling and Hazard Communication of Hazardous Chemicals  
Toxic Chemical Substances Control Act  
Toxic Chemical Substances Labeling and Materials Safety Data Sheets Regulations  
This material safety data sheet was prepared in accordance with the Regulation of Labeling and Hazard Communication of Hazardous Chemicals.

### Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste

Antimony (CAS 7440-36-0) Listed.

### Priority Management Chemical List (Regulations on Handling Priority Managed Chemicals), as amended

Not listed.

### Toxic Chemical Substances (TCS) List (EPA Toxic Substances Notice No. 0960095331E, Tables 1-3, Dec. 17, 2007, as amended)

Not listed.

### Standards on Workplace Atmosphere of Dangerous and Hazardous Materials

Antimony (CAS 7440-36-0) Listed.

Tin (CAS 7440-31-5) Listed.

### GHS Classification List: GHS implementation phase 1, 2 and 3 (CLA No. 0980145063, 0990146707, and 1020146801)

Antimony (CAS 7440-36-0)

### International regulations

#### Stockholm Convention

Not applicable.

#### Rotterdam Convention

Not applicable.

#### Montreal Protocol

Not applicable.

#### Kyoto protocol

Not applicable.

#### Basel Convention

Not applicable.

### International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	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).

## 16. Other information

### References

ACGIH  
EPA: ACQUIRE database  
NLM: Hazardous Substances Data Base  
US. IARC Monographs on Occupational Exposures to Chemical Agents  
Taiwan. Dangerous Materials (Rules on Hazard Communication of Dangerous Materials and Toxic Materials)  
Taiwan. Industrial Precursor Chemicals (Categories and Regulations Governing Inspection and Declaration of Industrial Precursor Chemicals, MOEA Decree No. 87, as amended)  
Taiwan. OELs. (Standards on Workplace Atmosphere of Dangerous and Hazardous Materials)  
Taiwan. Toxic Chemical Substances (TCS) (List of Toxic Chemical Substances announced by the Environmental Protection Administration)  
Taiwan. Toxic Materials (Rules on Hazard Communication of Dangerous Materials and Toxic Materials)

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### Prepared by

Not available.