



# SAFETY DATA SHEET

**MATERION**

## 1. Product and company identification

Name of the chemical	Gold Tin Targets
Other means of identification	
SDS number	G17
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 Electronic 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	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 (%)
Gold	7440-57-5	50 - 95
Tin	7440-31-5	5 - 50

## 4. First aid measures

### First aid measures for different exposure routes

**Inhalation** Call a physician if symptoms develop or persist.

<b>Skin contact</b>	Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Get medical advice/attention if you feel unwell.
<b>Most important symptoms and effects</b>	Nausea, vomiting. Diarrhea. None known.
<b>Personal protection for first-aid responders</b>	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. Use methods for the surrounding fire.
<b>Extinguishing media to avoid</b>	None known.
<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.
<b>Protection of fire-fighters</b>	Wear suitable protective equipment.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.
<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. For personal protection, see section 8 of the SDS.
<b>Environmental precautions</b>	Collect spillage.
<b>Spill cleanup methods</b>	Collect spillage. The product is immiscible with water and will spread on the water surface. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

## 7. Handling and storage

<b>Handling</b>	Observe good industrial hygiene practices.
<b>Storage</b>	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Exposure limits

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

Components	Type	Value
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
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>Exposure guidelines</b>	This material does not have established exposure limits.
<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.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves. Wear gloves to prevent metal cuts and skin abrasions during handling.
<b>Other</b>	Use personal protective equipment as required.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Use good industrial hygiene practices in handling this material.

## 9. Physical and chemical properties

### Appearance

Physical state	Solid.
Form	Solid.
Color	Yellowish

Odor None.

Odor threshold Not applicable.

Melting point/freezing point 518 - 1832 °F (270 - 1000 °C) / 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 - upper (%) 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 10.50 - 17.90 g/cm<sup>3</sup>

### 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 Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.

Incompatible materials Acids. Chlorine.

Hazardous decomposition products No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful. Not likely, due to the form of the product.
Skin contact	Not likely, due to the form of the product.
Eye contact	Not likely, due to the form of the product.
Ingestion	Expected to be a low ingestion hazard.

**Symptoms** Nausea, vomiting. Diarrhea. None known.

### Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Not relevant, due to the form of the product.
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 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** Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful. No data recorded.

**Other information** This product has no known adverse effect on human health.

## 12. Ecological information

**Ecotoxicity** No ecotoxicity data noted for the ingredient(s).

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

**Bioaccumulation** No data available.

**Mobility in soil** The product is immiscible with water and will spread on the water surface.

**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** Not available.

**Residual waste** Dispose of in accordance with local regulations.

**Contaminated packaging** No special precautions.

**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

Not 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

Tin (CAS 7440-31-5)

Listed.

### 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
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: AQUIRE database  
NLM: Hazardous Substances Data Base  
Taiwan. Dangerous Materials (Regulations for the Labeling and Hazard Communication of Hazardous Chemicals), as amended  
Taiwan. Industrial Precursor Chemicals (Categories and Regulations Governing Inspection and Declaration of Industrial Precursor Chemicals, MOEA Decree No. 87, as amended)  
Taiwan. OELs (Standards of Permissible Exposure Limits at Workplace), as amended  
Taiwan. Toxic Chemical Substances (TCS) (List of Toxic Chemical Substances announced by the Environmental Protection Administration)  
Taiwan. Toxic Materials (Toxic and Concerned Chemical Substances Control Act)  
US. IARC Monographs on Occupational Exposures to Chemical Agents

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### Prepared by

Not available.

### 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