



# PRODUCT INFORMATION SHEET

**MATERION**

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Trade name or designation of the mixture** Gold Tin Targets  
**Synonyms** None.  
**Document number** G17  
**Issue date** 13-December-2018  
**Version number** 01

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** Not available.  
**Uses advised against** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  
Consumer uses: Private households (= general public = consumers)

### 1.3. Details of the supplier of the product information sheet

#### Supplier

**Company name** Materion Advanced Materials Germany GmbH  
**Address** Borsigstrasse 10  
63755 Alzenau  
DE  
**Division**  
**Telephone** 49.60.23.91.82.0  
**e-mail** Materion.Germany@materion.com  
**Contact person** Hermann Schmiing

**1.4. Emergency telephone number** 49.60.23.91.82.0

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 as amended

**Hazard summary** 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.

### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

**Contains:** Gold, Tin  
**Hazard pictograms** None.  
**Signal word** None.  
**Hazard statements** 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 statements

**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.

**Supplemental label information** For further information, please contact the Product Stewardship Department at +1.216.383.4019.

**2.3. Other hazards** None known.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

## General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Gold	50 - 95	7440-57-5 231-165-9	-	-	
<b>Classification:</b>	-				
Tin	5 - 50	7440-31-5 231-141-8	-	-	#
<b>Classification:</b>	STOT SE 3;H335, STOT RE 1;H372				

## SECTION 4: First aid measures

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

### 4.1. Description of first aid measures

**Inhalation** Call a physician if symptoms develop or persist.  
**Skin contact** Get medical attention if irritation develops and persists.  
**Eye contact** Get medical attention if irritation develops and persists.  
**Ingestion** Get medical advice/attention if you feel unwell.

**4.2. Most important symptoms and effects, both acute and delayed** None known.

**4.3. Indication of any immediate medical attention and special treatment needed** Treat symptomatically.

## SECTION 5: Firefighting measures

**General fire hazards** No unusual fire or explosion hazards noted.

### 5.1. Extinguishing media

**Suitable extinguishing media** Powder. Dry sand. Use methods for the surrounding fire.  
**Unsuitable extinguishing media** None known.

**5.2. Special hazards arising from the substance or mixture** This product is not flammable.

### 5.3. Advice for firefighters

**Special protective equipment for firefighters** Wear suitable protective equipment.  
**Special firefighting procedures** Use water spray to cool unopened containers.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.  
**For emergency responders** Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

**6.2. Environmental precautions** Collect spillage.

**6.3. Methods and material for containment and cleaning up** Collect spillage.

**6.4. Reference to other sections** For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling** Avoid prolonged exposure. Observe good industrial hygiene practices.

**7.2. Conditions for safe storage, including any incompatibilities** Store away from incompatible materials (see Section 10 of the SDS).

**7.3. Specific end use(s)** Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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## Occupational exposure limits

### Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value	Form
Tin (CAS 7440-31-5)	MAK	2 mg/m <sup>3</sup>	Inhalable fraction.
	STEL	4 mg/m <sup>3</sup>	Inhalable fraction.

### Belgium. Exposure Limit Values.

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>

### Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	0,1 mg/m <sup>3</sup>

### Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value
Tin (CAS 7440-31-5)	MAC	2 mg/m <sup>3</sup>

### Czech Republic. OELs. Government Decree 361

Components	Type	Value
Tin (CAS 7440-31-5)	Ceiling	4 mg/m <sup>3</sup>
	TWA	2 mg/m <sup>3</sup>

### Finland. Workplace Exposure Limits

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>

### Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Tin (CAS 7440-31-5)	TWA	0,02 mg/m <sup>3</sup>	Vapor and aerosol, inhalable fraction.
		0,004 ppm	Vapor and aerosol, inhalable fraction.

### Greece. OELs (Decree No. 90/1999, as amended)

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>

### Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
Tin (CAS 7440-31-5)	STEL	8 mg/m <sup>3</sup>
	TWA	2 mg/m <sup>3</sup>

### Ireland. Occupational Exposure Limits

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>

### Italy. Occupational Exposure Limits

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>

### Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>

### Netherlands. OELs (binding)

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>

### Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value
Tin (CAS 7440-31-5)	TLV	2 mg/m <sup>3</sup>

### Poland. MACs. Regulation regarding maximum permissible concentrations and intensities of harmful factors in the work environment, Annex 1

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

**Portugal. OELs. Decree-Law n. 290/2001 (Journal of the Republic - 1 Series A, n.266)**

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>

**Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)**

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>

**Romania. OELs. Protection of workers from exposure to chemical agents at the workplace**

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>

**Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents**

Components	Type	Value
Tin (CAS 7440-31-5)	STEL	4 mg/m <sup>3</sup>
	TWA	2 mg/m <sup>3</sup>

**Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)**

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>

**Spain. Occupational Exposure Limits**

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>

**Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)**

Components	Type	Value	Form
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	Inhalable dust.

**EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU**

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Recommended monitoring procedures</b>	Follow standard monitoring procedures.
<b>Derived no effect levels (DNELs)</b>	Not available.
<b>Predicted no effect concentrations (PNECs)</b>	Not available.
<b>Exposure guidelines</b>	This material does not have established exposure limits.
<b>8.2. Exposure controls</b>	
<b>Appropriate engineering controls</b>	Good general ventilation (typically 10 air changes per hour) 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>General information</b>	As a standard hygiene practice, wash hands before eating or smoking.
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
- Hand protection	Wear gloves to prevent metal cuts and skin abrasions during handling.
- Other	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>Hygiene measures</b>	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.
<b>Environmental exposure controls</b>	Environmental manager must be informed of all major releases.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties****Appearance**

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<b>Physical state</b>	Solid.
<b>Form</b>	Solid.
<b>Colour</b>	Yellowish
<b>Odour</b>	None.
<b>Odour threshold</b>	Not applicable.
<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	270 - 1000 °C (518 - 1832 °F) / Not applicable.
<b>Initial boiling point and boiling range</b>	Not applicable.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	None known.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not applicable.
<b>Flammability limit - upper (%)</b>	Not applicable.
<b>Explosive limit - lower (%)</b>	Not applicable.
<b>Explosive limit - lower (%) temperature</b>	Not applicable.
<b>Explosive limit – upper (%)</b>	Not applicable.
<b>Explosive limit - upper (%) temperature</b>	Not applicable.
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	Not applicable.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble.
<b>Partition coefficient (n-octanol/water)</b>	Not applicable.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition temperature</b>	Not applicable.
<b>Viscosity</b>	Not applicable.
<b>Explosive properties</b>	Not available.
<b>Oxidising properties</b>	Not oxidising.

## 9.2. Other information

**Density** 10,50 - 17,90 g/cm<sup>3</sup>

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>10.2. Chemical stability</b>	Material is stable under normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>10.4. Conditions to avoid</b>	Contact with incompatible materials.
<b>10.5. Incompatible materials</b>	Acids. Chlorine.
<b>10.6. Hazardous decomposition products</b>	No hazardous decomposition products are known.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

### Information on likely routes of exposure

<b>Inhalation</b>	Not likely, due to the form of the product.
<b>Skin contact</b>	Not likely, due to the form of the product.
<b>Eye contact</b>	Not likely, due to the form of the product.
<b>Ingestion</b>	Expected to be a low ingestion hazard.

**Symptoms** None known.

### 11.1. Information on toxicological effects

<b>Acute toxicity</b>	No data available.
<b>Skin corrosion/irritation</b>	Not relevant, due to the form of the product.
<b>Serious eye damage/eye irritation</b>	Not likely, due to the form of the product.
<b>Respiratory sensitisation</b>	Not a respiratory sensitizer.
<b>Skin sensitisation</b>	Not a skin sensitiser.
<b>Germ cell mutagenicity</b>	Not classified.
<b>Carcinogenicity</b>	Not classified.
<b>Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)</b>	
Not listed.	
<b>Reproductive toxicity</b>	Not classified.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Mixture versus substance information</b>	No information available.
<b>Other information</b>	This product has no known adverse effect on human health.

## SECTION 12: Ecological information

<b>12.1. Toxicity</b>	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.
<b>12.2. Persistence and degradability</b>	No data is available on the degradability of this product.
<b>12.3. Bioaccumulative potential</b>	No data available.
<b>Partition coefficient n-octanol/water (log Kow)</b>	Not available.
<b>Bioconcentration factor (BCF)</b>	Not available.
<b>12.4. Mobility in soil</b>	No data available.
<b>12.5. Results of PBT and vPvB assessment</b>	Not available.
<b>12.6. Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
<b>12.7. Additional information</b>	

#### Estonia Dangerous substances in groundwater Data

Tin (CAS 7440-31-5)	Tin (Sn) 150 UG/L
	Tin (Sn) 3 UG/L

#### Estonia Dangerous substances in soil Data

Tin (CAS 7440-31-5)	Tin (Sn) 10 mg/kg
	Tin (Sn) 300 mg/kg
	Tin (Sn) 50 mg/kg

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Residual waste</b>	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).
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>EU waste code</b>	Not available.
<b>Disposal methods/information</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

14.1. - 14.6.: Not regulated as dangerous goods.

**RID**

14.1. - 14.6.: Not regulated as dangerous goods.

**ADN**

14.1. - 14.6.: Not regulated as dangerous goods.

**IATA**

14.1. - 14.6.: Not regulated as dangerous goods.

**IMDG**

14.1. - 14.6.: Not regulated as dangerous goods.

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulations**

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

**Authorisations**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

**Restrictions on use**

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

**Other EU regulations**

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Not listed.

**National regulations** Not available.

**15.2. Chemical safety assessment** Not available.

**SECTION 16: Other information**

**List of abbreviations** Not available.

**Information on evaluation method leading to the classification of mixture** Not applicable.

## Disclaimer

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