



# SAFETY DATA SHEET

**MATERION**

## 1. Product and company identification

Name of the chemical	Silver Targets	
Other means of identification		
SDS number	G09	
CAS number	7440-22-4	
Recommended use of the chemical and restrictions on use		
Recommended use	Manufacture of computer, electronic and optical products, electrical equipment General manufacturing, e.g. machinery, equipment, vehicles, other transport 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	Wash hands after handling.	
Storage	Store away from incompatible materials.	
Disposal	Dispose of waste and residues in accordance with local authority requirements.	
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

Substance		
Chemical name	CAS Number	Concentration (%)
Silver Targets	7440-22-4	100

## 4. First aid measures

### First aid measures for different exposure routes

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. Get medical attention if symptoms occur.

**Most important symptoms and effects** Direct contact with eyes may cause temporary irritation.

**Personal protection for first-aid responders** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**Notes to physician** Treat symptomatically.

## 5. Fire-fighting measures

**Extinguishing media** Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

**Extinguishing media to avoid** Do not use water as an extinguisher.

**Specific hazards during fire fighting** This product is not flammable.

**Special fire fighting procedures** Use water spray to cool unopened containers.

**Protection of fire-fighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

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

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

## 6. Accidental release measures

**Personal precautions** Keep unnecessary personnel away.

**Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

**Spill cleanup methods** Stop the flow of material, if this is without risk.

## 7. Handling and storage

**Handling** Observe good industrial hygiene practices.

**Storage** Not available.

## 8. Exposure controls/personal protection

### Exposure limits

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

Material	Type	Value	Form
Silver Targets (CAS 7440-22-4)	STEL	0.03 mg/m <sup>3</sup>	Dust and fume.
	TWA	0.01 mg/m <sup>3</sup>	Dust and fume.
US. ACGIH Threshold Limit Values			
Material	Type	Value	Form
Silver Targets (CAS 7440-22-4)	TWA	0.1 mg/m <sup>3</sup>	Dust and fume.

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls** 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.

### Individual protection measures, such as personal protective equipment

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

#### Skin protection

**Hand protection** Wear gloves to prevent metal cuts and skin abrasions during handling.

**Other** Wear suitable protective clothing.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** 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.

## 9. Physical and chemical properties

### Appearance

**Physical state** Solid.  
**Form** Various shapes.  
**Color** Silver.

**Odor** None.

**Odor threshold** Not applicable.

**Melting point/freezing point** 1760.9 °F (960.5 °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** 10.49 g/cm<sup>3</sup> estimated at 15 °C

### Solubility(ies)

**Solubility (water)** Insoluble

**Partition coefficient** Not applicable.

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

**Evaporation rate** Not applicable.

### Other data

**Explosive limit** Not applicable.

**Explosive properties** Not applicable.

**Explosivity** Not applicable.

**Molecular formula** Ag

**Molecular weight** 107.86 g/mol

**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.

<b>Incompatible materials</b>	Strong acids. May react with strong bases or oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	No adverse effects due to inhalation are expected.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Not relevant, due to the form of the product.
<b>Ingestion</b>	Expected to be a low ingestion hazard.

<b>Symptoms</b>	None known.
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### Information on toxicological effects

<b>Acute toxicity</b>	None known.
<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 or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	Not a skin sensitizer.
<b>Germ cell mutagenicity</b>	Not classified.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<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>Chronic effects</b>	Not available.
<b>Other information</b>	None known.

## 12. Ecological information

<b>Ecotoxicity</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>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulation</b>	No data available.
<b>Mobility in soil</b>	No data available.
<b>Other hazardous 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.

## 13. Disposal considerations

<b>Disposal instructions</b>	Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.
<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>	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.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.

## 14. Transport information

<b>IATA</b>	Not regulated as dangerous goods.
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## 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

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

Silver Targets (CAS 7440-22-4)

Listed.

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

Silver Targets (CAS 7440-22-4)

### 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 Not available.

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**Prepared by**

Not available.