



# CHEMICAL PRODUCT SAFETY DATA SHEET

Prepared in accordance with GB/T 16483 and GB/T 17519.

**MATERION**

Product name: Cu/Na<sub>2</sub>SeO<sub>3</sub> Targets

Issue date: 11-29-2018

Version #: 01

SDS No: G11

## 1. Chemical product and company identification

<b>Product name</b>	<b>Cu/Na<sub>2</sub>SeO<sub>3</sub> Targets</b>
<b>Manufacturer/Supplier</b>	Materion Advanced Materials Germany GmbH
<b>Address</b>	Borsigstrasse 10 Alzenau, 63755 Germany
<b>Contact person</b>	Hermann Schmiing
<b>Telephone</b>	49.60.23.91.82.0 Hermann Schmiing
<b>e-mail</b>	Materion.Germany@materion.com
<b>Emergency telephone number</b>	49.60.23.91.82.0
<b>Issue date</b>	11-29-2018
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## 2. Hazards identification

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

### Emergency overview

Toxic if inhaled. Toxic if swallowed. Causes serious eye irritation. May cause an allergic skin reaction. Occupational exposure to the substance or mixture may cause adverse health effects.

### Hazard categories

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Acute toxicity, oral	Category 2
	Acute toxicity, inhalation	Category 3
	Serious eye damage/eye irritation	Category 2
	Sensitization, skin	Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, long-term hazard	Category 2

### Label elements

#### Pictograms



#### Signal word

Danger

#### Hazard statement

H300	Fatal if swallowed.
H331	Toxic if inhaled.
H411	Toxic to aquatic life with long lasting effects.

#### Precautionary statement

##### Prevention

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.

##### Response

P301 + P330 + P310	IF SWALLOWED: Rinse mouth. Immediately obtain medical assistance.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately get medical assistance.
P305 + P351 + P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P391	Collect spillage.

**Storage**

P405	Store locked up.
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**Disposal**

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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**Physical and chemical hazards** The product is stable and non-reactive under normal conditions of use, storage and transport. No unusual fire or explosion hazards noted.

**Health hazards** Toxic if swallowed. Prolonged inhalation may be harmful. Direct contact with eyes may cause temporary irritation.

**Environmental hazards** Harmful to aquatic life with long lasting effects.

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

**3. Composition/information on ingredients**

**Substance/mixture** Mixture

Chemical name	Concentration (%)	CAS Number
Copper	76 - 95	7440-50-8
Sodium Selenite (Na <sub>2</sub> SeO <sub>3</sub> )	5 - 24	10102-18-8

**4. First aid measures**

<b>Inhalation</b>	Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash off with soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. If swallowed, seek medical advice immediately and show this container or label.
<b>Most important symptoms and health effects</b>	Direct contact with eyes may cause temporary irritation.
<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>	Provide general supportive measures and treat symptomatically.

**5. Fire-fighting measures**

<b>Extinguishing media</b>	Water spray. Foam. Powder. Dry sand. Carbon dioxide (CO <sub>2</sub> ).
<b>Extinguishing media to avoid</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards</b>	During fire, gases hazardous to health may be formed.
<b>Special fire fighting procedures</b>	Use water spray to cool unopened containers.
<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****Personal precautions, protective equipment and emergency procedures**

<b>For non-emergency personnel</b>	Keep unnecessary personnel away. Ensure adequate ventilation.
<b>For emergency responders</b>	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

**Environmental precautions** Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases.

**Clean-up methods and materials and containment measures** Collect spillage.

**Prevention of secondary hazards** Not available.

## 7. Handling and storage

**Handling** Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

**Storage** Store locked up. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Exposure limits

China OELs. Occupational Exposure Limits for Hazardous Agents in the Workplace, Chemical Hazardous Agents (GBZ 2.1-2007)

Components	Type	Value	Form
Copper (CAS 7440-50-8)	PC-TWA	1 mg/m <sup>3</sup> 0.2 mg/m <sup>3</sup>	Dust. Fume.
Sodium Selenite (Na <sub>2</sub> SeO <sub>3</sub> ) (CAS 10102-18-8)	PC-TWA	0.1 mg/m <sup>3</sup>	

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

**Monitoring methods** Follow standard monitoring procedures.

**Engineering measures** 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.

### Personal protective equipment

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

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

**Eye protection** Face shield is recommended. Wear safety glasses with side shields (or goggles).

**Skin and body protection** Wear suitable protective clothing.

**Hygiene measures** Keep away from food and drink. 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** Solid.

**Color** Copper

**Odor** None.

**Odor threshold** Not applicable.

**pH** Not applicable.

**Melting point/freezing point** 1981.4 °F (1083 °C) / Not applicable.

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

**Flash point** Not applicable.

**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.

**Relative density** Not applicable.

**Density** 7.76 g/cm<sup>3</sup> estimated

**Solubility(ies)**

<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>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	None known.
<b>Other data</b>	
<b>Explosive limit</b>	Not applicable.
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.
<b>Specific gravity</b>	7.76 estimated
<b>Viscosity</b>	Not applicable.

**10. Stability and reactivity**

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

**11. Toxicological information**

<b>Acute toxicity</b>	Toxic if swallowed.
<b>Routes of exposure</b>	Inhalation. Ingestion.
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.
<b>Serious eye damage/eye irritation</b>	Direct contact with eyes may cause temporary irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitizer</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity****IARC Monographs. Overall Evaluation of Carcinogenicity**

Sodium Selenite (Na<sub>2</sub>SeO<sub>3</sub>) (CAS 10102-18-8) 3 Not classifiable as to carcinogenicity to humans.

<b>Toxic to reproduction</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity following single exposure</b>	Not classified.
<b>Specific target organ toxicity following repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.

**12. Ecological information****Ecotoxicological data**

Components	Species	Test Results
Sodium Selenite (Na <sub>2</sub> SeO <sub>3</sub> ) (CAS 10102-18-8)		
<b>Aquatic</b>		
Crustacea	EC50 Water flea (Daphnia magna)	1.1 mg/l, 48 hours

Components	Species	Test Results
Fish	LC50 Rainbow trout,donaldson trout (Oncorhynchus mykiss)	1.8 mg/l, 96 hours

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

<b>Ecotoxicity</b>	Based on available data, the classification criteria are not met for hazardous to the aquatic environment, acute hazard.
<b>Persistence and degradability</b>	
<b>Bioaccumulation</b>	No data available.
<b>Mobility in soil</b>	No data available for this product.
<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>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>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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.

### 14. Transport information

#### CNDG

<b>UN number</b>	UN2630
<b>UN proper shipping name</b>	Selenates or Selenites
<b>Transport hazard class(es)</b>	
<b>Class</b>	6.1(PGI, II)
<b>Subsidiary risk</b>	-
<b>Packing group</b>	I
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### IATA

<b>UN number</b>	UN2630
<b>UN proper shipping name</b>	Selenates or Selenites
<b>Transport hazard class(es)</b>	
<b>Class</b>	6.1(PGI, II)
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	6.1
<b>Packing group</b>	I
<b>Environmental hazards</b>	No.
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### IMDG

<b>UN number</b>	UN2630
<b>UN proper shipping name</b>	Selenates or Selenites
<b>Transport hazard class(es)</b>	
<b>Class</b>	6.1(PGI, II)
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	6.1
<b>Packing group</b>	I
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-A, S-A
<b>Special precautions for user</b>	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.

**CNDG; IATA; IMDG****General information**

IMDG Regulated Marine Pollutant.

**15. Regulatory information****Inventory of Existing Chemical Substances in China**

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	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).

**Applicable regulations**

This safety data sheet conforms to the following laws, regulations and standards:  
 Regulations on the Control over Safety of Dangerous Chemicals  
 Regulations on Labor Protection in Workplaces Where Toxic Products Are Used  
 Measures for the Safe Use of Chemicals in Workplaces  
 Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)  
 General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009 )  
 Packing Symbol of Dangerous Goods(GB190-2009)  
 Packing - Pictorial Marking for Handling of Goods (GB/T191-2009)

**General Rule For Classification and Hazard Communication of Chemicals (GB 13690-2009) and Catalog of Hazardous Chemicals**

Sodium Selenite (Na<sub>2</sub>SeO<sub>3</sub>) (CAS 10102-18-8)

**Occupational exposure limits for hazardous agents in the workplace (GBZ 2.1-2007)**

Copper (CAS 7440-50-8)

Sodium Selenite (Na<sub>2</sub>SeO<sub>3</sub>) (CAS 10102-18-8)

**National Catalogue of Hazardous Wastes**

Sodium Selenite (Na<sub>2</sub>SeO<sub>3</sub>) (CAS 10102-18-8)

**Restricted Import/Export Toxic Chemical List (MEP and GCA Announcement No. 2008-66, Dec. 1, 2008, amended through MEP and Customs Notice No. 2013-85, December 30, 2013)**

Not regulated.

**Classification and code of dangerous goods (GB 6944-2012)**

Regulated.

**List of Dangerous Goods (GB 12268-2012)**

Regulated.

**The Principle of Classification of Transport Packaging Groups of Dangerous Goods (GB/T15098-2008)**

Regulated.

**General Specifications for Transport Packages of Dangerous Goods (GB 12463-2009)**

Regulated.

**Regulations on Road Transport of Dangerous Goods**

Regulated.

**Regulations on Rail Road Transport of Dangerous Goods**

Regulated.

**UN Recommendations on the Transport of Dangerous Goods (UN RTDG)**

Regulated.

**16. Other information****References**

EPA: AQUIRE database  
 GB6944-2012: Classification and Code of Dangerous Goods.  
 GB12268-2012: List of Dangerous Goods.  
 NLM: Hazardous Substances Data Base  
 US. IARC Monographs on Occupational Exposures to Chemical Agents

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