



# SAFETY DATA SHEET

**MATERION**

## 1. Identification

Product identifier **Cu/Na<sub>2</sub>SeO<sub>3</sub> Targets**

Other means of identification

SDS number G11

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Materion Advanced Materials  
Address 6070 Parkland Boulevard  
Mayfield Heights, OH 44124  
United States

Telephone EH&S 1.216.383.4019

Website [www.materion.com](http://www.materion.com)

E-mail [ehs@materion.com](mailto:ehs@materion.com)

Contact person Theodore Knudson

Emergency phone number See Section 16.

## 2. Hazard(s) identification

Physical hazards Not classified.

Health hazards  
Acute toxicity, oral Category 2  
Acute toxicity, inhalation Category 3  
Serious eye damage/eye irritation Category 2  
Sensitization, skin Category 1

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 2

OSHA defined hazards Not classified.

Label elements



Signal word **Danger**

Hazard statement **Fatal if swallowed. May cause an allergic skin reaction. Causes serious eye irritation. Toxic if inhaled. Toxic to aquatic life with long lasting effects.**

Precautionary statement

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

Response IF SWALLOWED: Rinse mouth. Immediately obtain medical assistance. IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately get medical assistance. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Collect spillage.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** For further information, please contact the Product Stewardship Department at +1.800.862.4118.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Copper		7440-50-8	76 - 95
Sodium Selenite (Na <sub>2</sub> SeO <sub>3</sub> )	DISODIUM SELENITE DISODIUM SELENIUM TRIOXIDE	10102-18-8	5 - 24

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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/effects, acute and delayed</b>	Severe eye irritation. May cause an allergic skin reaction.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically.
<b>General information</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.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water spray. Foam. Powder. Dry sand. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Use water spray to cool unopened containers.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Ensure adequate ventilation.
<b>Methods and materials for containment and cleaning up</b>	Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination.
<b>Environmental precautions</b>	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases.

### 7. Handling and storage

<b>Precautions for safe handling</b>	Minimize dust generation and accumulation. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
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**Conditions for safe storage, including any incompatibilities**

Store locked up. Store in original tightly closed container. Store in a well-ventilated place.

## 8. Exposure controls/personal protection

### Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

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

#### US. ACGIH Threshold Limit Values

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

#### US. NIOSH: Pocket Guide to Chemical Hazards

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

#### US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

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

### 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. Provide eyewash station.

### 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** 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. Contaminated work clothing should not be allowed out of the workplace.

## 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.

**Initial boiling point and boiling range** Not applicable.

**Flash point** Not applicable.

**Evaporation rate** Not applicable.

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

### 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.

**Relative density** Not applicable.

### Solubility(ies)

**Solubility (water)** Insoluble.

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

**Auto-ignition temperature** Not applicable.

**Decomposition temperature** Not applicable.

**Viscosity** Not applicable.

### Other information

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

**Explosive limit** Not applicable.

**Explosive properties** Not explosive.

**Oxidizing properties** Not oxidizing.

**Specific gravity** 7.76 estimated

## 10. Stability and reactivity

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability** Material is stable under normal conditions.

<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<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

### Information on likely routes of exposure

<b>Inhalation</b>	Toxic if inhaled.
<b>Skin contact</b>	May cause an allergic skin reaction.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	Fatal if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Severe eye irritation. May cause an allergic skin reaction.

### Information on toxicological effects

<b>Acute toxicity</b>	Fatal if swallowed. Toxic if inhaled.
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	May cause an allergic skin reaction.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	Not classifiable as to carcinogenicity to humans.

#### 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.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

#### US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<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>	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** Based on available data, the classification criteria are not met for hazardous to the aquatic environment, acute hazard.

Product	Species		Test Results
Cu/Na <sub>2</sub> SeO <sub>3</sub> Targets			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Daphnia	100.1019 mg/l, 48 hours estimated
Fish	LC50	Fish	0.0341 mg/l, 96 hours estimated
Components	Species		Test Results
Copper (CAS 7440-50-8)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Blue crab ( <i>Callinectes sapidus</i> )	0.0031 mg/l
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> )	0.0219 - 0.0446 mg/l, 96 hours
Sodium Selenite (Na <sub>2</sub> SeO <sub>3</sub> ) (CAS 10102-18-8)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> )	1.1 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout ( <i>Oncorhynchus mykiss</i> )	1.8 mg/l, 96 hours

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

#### Persistence and degradability

**Bioaccumulative potential** No data available.

**Mobility in soil** No data available.

**Other adverse 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. 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.

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

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** 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.

### 14. Transport information

#### DOT

<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>Special precautions for user</b>	Not available.

Special provisions IB7, IP1, T6, TP33  
Packaging non bulk 211  
Packaging bulk 242

#### IATA

UN number UN2630  
UN proper shipping name Selenates or Selenites  
Transport hazard class(es)  
Class 6.1(PGI, II)  
Subsidiary risk -  
Label(s) 6.1  
Packing group I  
Environmental hazards No.  
Special precautions for user Not available.

#### IMDG

UN number UN2630  
UN proper shipping name Selenates or Selenites  
Transport hazard class(es)  
Class 6.1(PGI, II)  
Subsidiary risk -  
Label(s) 6.1  
Packing group I  
Environmental hazards  
Marine pollutant No.  
EmS F-A, S-A  
Special precautions for user Not available.

#### DOT



#### IATA; IMDG



General information IMDG Regulated Marine Pollutant.

## 15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### Toxic Substances Control Act (TSCA)

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Copper (CAS 7440-50-8) Listed.  
 Sodium Selenite (Na<sub>2</sub>SeO<sub>3</sub>) (CAS 10102-18-8) Listed.

**SARA 304 Emergency release notification**

sodium selenite (CAS 10102-18-8) 100 LBS

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SARA 302 Extremely hazardous substance**

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Sodium Selenite (Na <sub>2</sub> SeO <sub>3</sub> )	10102-18-8	100		100	10000

**SARA 311/312 Hazardous chemical** No (Exempt)

**SARA 313 (TRI reporting)**

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

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

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

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**California Proposition 65**

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Copper (CAS 7440-50-8)  
 Sodium Selenite (Na<sub>2</sub>SeO<sub>3</sub>) (CAS 10102-18-8)

**16. Other information, including date of preparation or last revision**

**Issue date** 11-29-2018  
**Revision date** 07-01-2021  
**Version #** 02  
**Further information** Transportation Emergency  
 Call Chemtrec at:  
 International: 703.741.5970  
 Spain: 900.868.538  
 Switzerland: 0800.564.402

**Other information** Revised information in Section 16.

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