



# 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** Copper Gallium with Sodium Selenite Targets  
**Registration number** -  
**Document number** G14  
**Synonyms** None.  
**Issue date** 01-February-2021  
**Version number** 02  
**Revision date** 01-July-2021

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

#### Supplier

**Company name** Materion Advanced Materials  
**Address** 6070 Parkland Boulevard  
Mayfield Heights, OH 44124  
United States  
**Division**  
**Telephone** 1.216.383.4019  
**e-mail** ehs@materion.com  
**Contact person** Theodore Knudson

**1.4. Emergency telephone number** See Section 16.

**Supersedes date** 01-February-2021

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

**Identified uses** Manufacture of computer, electronic and optical products, electrical equipment  
Scientific research and development  
Other: Manufacture of medical and defense equipment  
**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 safety data sheet

#### Supplier

**Company name** Materion Advanced Materials  
**Address** 6070 Parkland Boulevard  
Mayfield Heights, OH 44124  
United States  
**Division**  
**Telephone** 1.216.383.4019  
**e-mail** ehs@materion.com  
**Contact person** Theodore Knudson

**1.4. Emergency telephone number** See Section 16.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

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

<b>Physical hazards</b>		
Corrosive to metals	Category 1	H290 - May be corrosive to metals.
<b>Health hazards</b>		
Acute toxicity, oral	Category 2	H300 - Fatal if swallowed.
Acute toxicity, inhalation	Category 3	H331 - Toxic if inhaled.
Serious eye damage/eye irritation	Category 1	H318 - Causes serious eye damage.

Skin sensitisation

Category 1

H317 - May cause an allergic skin reaction.

### Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard

Category 2

H411 - Toxic to aquatic life with long lasting effects.

### Hazard summary

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.

## 2.2. Label elements

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

#### Contains:

COPPER FLAKES (COATED WITH ALIPHATIC ACID), Gallium, Sodium Selenite (Na<sub>2</sub>SeO<sub>3</sub>)

#### Hazard pictograms



#### Signal word

Danger

#### Hazard statements

H290 May be corrosive to metals.  
H300 Fatal if swallowed.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H331 Toxic if inhaled.  
H411 Toxic to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/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.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
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.

#### 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

Not a PBT or vPvB substance or mixture.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
COPPER FLAKES (COATED WITH ALIPHATIC ACID)	75 - 90	7440-50-8 231-159-6	01-2119480154-42-0080	-	

Classification: -

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Gallium	10 - 20	7440-55-3 231-163-8	-	-	
<b>Classification:</b> Skin Corr. 1C;H314, Eye Dam. 1;H318					
Sodium Selenite (Na <sub>2</sub> SeO <sub>3</sub> )	5 - 10	10102-18-8 233-267-9	-	034-003-00-3	
<b>Classification:</b> Acute Tox. 2;H300, Skin Sens. 1;H317, Acute Tox. 3;H331, Aquatic Chronic 1;H410					

## SECTION 4: First aid measures

<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.
<b>4.1. Description of first aid measures</b>	
<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>4.2. Most important symptoms and effects, both acute and delayed</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. May cause an allergic skin reaction. Dermatitis. Rash.
<b>4.3. Indication of any immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically.

## SECTION 5: Firefighting measures

<b>General fire hazards</b>	No unusual fire or explosion hazards noted.
<b>5.1. Extinguishing media</b>	
<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>5.2. Special hazards arising from the substance or mixture</b>	During fire, gases hazardous to health may be formed.
<b>5.3. Advice for firefighters</b>	
<b>Special protective equipment for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Special firefighting procedures</b>	Use water spray to cool unopened containers.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

<b>6.1. Personal precautions, protective equipment and emergency procedures</b>	
<b>For non-emergency personnel</b>	Keep unnecessary personnel away. Ensure adequate ventilation. For personal protection, see section 8 of the PIS.
<b>For emergency responders</b>	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the PIS.
<b>6.2. Environmental precautions</b>	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases.
<b>6.3. Methods and material 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>6.4. Reference to other sections</b>	Not available.

## SECTION 7: Handling and storage

- 7.1. Precautions for safe handling** Minimise 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.
- 7.2. Conditions for safe storage, including any incompatibilities** Store locked up. Store in original tightly closed container. Store in a well-ventilated place.
- 7.3. Specific end use(s)** Not applicable.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### Ireland. Occupational Exposure Limits

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

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

**Recommended monitoring procedures** Follow standard monitoring procedures.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

### 8.2. Exposure controls

#### 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

**General information** Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the 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.

#### 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. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

#### Environmental exposure controls

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

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

**Physical state** Solid.

**Form** Solid.

**Colour** Brass.

**Odour** None.

**Odour threshold** Not applicable.

<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	Undetermined. / 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 - lower (%) temperature</b>	Not applicable.
<b>Flammability limit - upper (%)</b>	Not applicable.
<b>Flammability limit - upper (%) temperature</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>	Non-metallic component can partially dissolve.
<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.
<b>9.2. Other information</b>	
<b>Density</b>	7.96 g/cm <sup>3</sup> estimated
<b>Explosive limit</b>	Not applicable.
<b>Explosivity</b>	Not applicable.

## 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>	Strong oxidising agents.
<b>10.6. Hazardous decomposition products</b>	No hazardous decomposition products are known.

## SECTION 11: Toxicological information

<b>General information</b>	Occupational exposure to the substance or mixture may cause adverse effects.
<b>Information on likely routes of exposure</b>	
<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.
<b>Symptoms</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. May cause an allergic skin reaction. Dermatitis. Rash.

### 11.1. Information on toxicological effects

<b>Acute toxicity</b>	Fatal if swallowed. Toxic if inhaled.
<b>Skin corrosion/irritation</b>	Due to partial or complete lack of data the classification is not possible.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.
<b>Respiratory sensitisation</b>	Due to partial or complete lack of data the classification is not possible.
<b>Skin sensitisation</b>	May cause an allergic skin reaction.
<b>Germ cell mutagenicity</b>	Due to partial or complete lack of data the classification is not possible.
<b>Carcinogenicity</b>	Due to partial or complete lack of data the classification is not possible.

#### 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>Reproductive toxicity</b>	Due to partial or complete lack of data the classification is not possible.
<b>Specific target organ toxicity - single exposure</b>	May cause respiratory irritation.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Due to partial or complete lack of data the classification is not possible.
<b>Mixture versus substance information</b>	No information available.
<b>Other information</b>	Not available.

## SECTION 12: Ecological information

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

Product	Species		Test Results
Copper Gallium with Sodium Selenite Targets			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Daphnia	240.2444 mg/l, 48 hours estimated
Fish	LC50	Fish	0.036 mg/l, 96 hours estimated

Components	Species		Test Results
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COPPER FLAKES (COATED WITH ALIPHATIC ACID) (CAS 7440-50-8)

#### Aquatic

*Acute*

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)

#### Aquatic

*Acute*

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.

### 12.2. Persistence and degradability

**12.3. Bioaccumulative potential** No data available.

**Partition coefficient n-octanol/water (log K<sub>ow</sub>)** Not available.

**Bioconcentration factor (BCF)** Not available.

<b>12.4. Mobility in soil</b>	No data available.
<b>12.5. Results of PBT and vPvB assessment</b>	Not a PBT or vPvB substance or mixture.
<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.

## 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>	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>EU waste code</b>	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal methods/information</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.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

<b>14.1. UN number</b>	UN2630
<b>14.2. UN proper shipping name</b>	Selenates or Selenites
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	6.1(PGI, II)
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	6.1
<b>Hazard No. (ADR)</b>	66
<b>Tunnel restriction code</b>	C/E
<b>14.4. Packing group</b>	I
<b>14.5. Environmental hazards</b>	No.
<b>14.6. Special precautions for user</b>	Not available.

### RID

<b>14.1. UN number</b>	UN2630
<b>14.2. UN proper shipping name</b>	Selenates or Selenites
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	6.1(PGI, II)
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	6.1
<b>14.4. Packing group</b>	I
<b>14.5. Environmental hazards</b>	No.
<b>14.6. Special precautions for user</b>	Not available.

### ADN

<b>14.1. UN number</b>	UN2630
<b>14.2. UN proper shipping name</b>	Selenates or Selenites
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	6.1(PGI, II)
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	6.1
<b>14.4. Packing group</b>	I
<b>14.5. Environmental hazards</b>	No.
<b>14.6. Special precautions for user</b>	Not available.

## IATA

<b>14.1. UN number</b>	UN2630
<b>14.2. UN proper shipping name</b>	Selenates and Selenites
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	6.1(PGI, II)
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	6.1
<b>14.4. Packing group</b>	I
<b>14.5. Environmental hazards</b>	No.
<b>14.6. Special precautions for user</b>	Not available.

## IMDG

<b>14.1. UN number</b>	UN2630
<b>14.2. UN proper shipping name</b>	SELENITES
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	6.1
<b>Subsidiary risk</b>	-
<b>14.4. Packing group</b>	I
<b>14.5. Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-A, S-A
<b>14.6. Special precautions for user</b>	Not available.

ADN; ADR; IATA; IMDG; RID



**General information** IMDG Regulated Marine Pollutant.

## 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 (EU) 2019/1021 On persistent organic pollutants (recast), 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**  
COPPER FLAKES (COATED WITH ALIPHATIC ACID) (CAS 7440-50-8)

**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**

COPPER FLAKES (COATED WITH ALIPHATIC ACID) (CAS 7440-50-8)

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

**Other regulations**

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.

**National regulations**

Follow national regulation for work with chemical agents. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended.

**15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out.

**SECTION 16: Other information**

**List of abbreviations**

Not available.

**References**

Not available.

**Information on evaluation method leading to the classification of mixture**

The classification for health and environmental hazards is derived by a combination of calculator methods and test data, if available.

**Training information**

Follow training instructions when handling this material.

**Further information**

Transportation Emergency  
Call Chemtrec at:  
International: 703.741.5970  
Spain: 900.868.538  
Switzerland: 0800.564.402  
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059

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