



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 Cu/Na₂SeO₃ Targets
Registration number -
Document number G11
Synonyms None.
Issue date 04-December-2018
Version number 01

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

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)

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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

Health hazards

Acute toxicity, oral	Category 2	H300 - Fatal if swallowed.
Acute toxicity, inhalation	Category 3	H331 - Toxic if inhaled.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
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, Sodium Selenite (Na₂SeO₃)

Hazard pictograms**Signal word**

Danger

Hazard statements

H300 Fatal if swallowed.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
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	76 - 95	7440-50-8 231-159-6	01-2119480154-42-0080	-	
Classification:	-				
Sodium Selenite (Na ₂ SeO ₃)	5 - 24	10102-18-8 233-267-9	-	034-003-00-3	
Classification:	Acute Tox. 2;H300, Skin Sens. 1;H317, Acute Tox. 3;H331, Aquatic Chronic 1;H410				

SECTION 4: First aid measures

General information 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.

4.1. Description of first aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. If swallowed, seek medical advice immediately and show this container or label.

4.2. Most important symptoms and effects, both acute and delayed 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.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media Water spray. Foam. Powder. Dry sand. Carbon dioxide (CO₂).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

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. Ensure adequate ventilation. For personal protection, see section 8 of the PIS.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the PIS.

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

6.3. Methods and material for containment and cleaning up Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination.

6.4. Reference to other sections 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

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
Copper (CAS 7440-50-8)	STEL	4 mg/m ³	
		0,4 mg/m ³	Smoke.
	TWA	1 mg/m ³	
		0,1 mg/m ³	Smoke.
Sodium Selenite (Na ₂ SeO ₃) (CAS 10102-18-8)	STEL	0,4 mg/m ³	
	TWA	0,1 mg/m ³	

Biological limit values

Hungary. Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices

Components	Value	Determinant	Specimen	Sampling Time
Sodium Selenite (Na ₂ SeO ₃) (CAS 10102-18-8)	0,075 mg/g	Selenium	Creatinine in urine	*
	0,11 µmol/mmol	Selenium	Creatinine in urine	*

* - For sampling details, please see the source document.

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 Copper

Odour None.

Odour threshold Not applicable.

pH Not applicable.

Melting point/freezing point	1083 °C (1981,4 °F) / 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.

Vapour pressure Not applicable.

Vapour 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 available.

Explosive properties Not explosive.

Oxidising properties Not oxidising.

9.2. Other information

Density 7,76 g/cm³ estimated

Explosive limit Not applicable.

Specific gravity 7,76 estimated

SECTION 10: Stability and reactivity

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

10.2. Chemical stability Material is stable under normal conditions.

10.3. Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid Contact with incompatible materials.

10.5. Incompatible materials Strong oxidising agents.

10.6. Hazardous decomposition products 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

Inhalation Toxic if inhaled.

Skin contact May cause an allergic skin reaction.

Eye contact Causes serious eye irritation.

Ingestion Fatal if swallowed.

Symptoms 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

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

Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

IARC Monographs. Overall Evaluation of Carcinogenicity

Sodium Selenite (Na₂SeO₃) (CAS 10102-18-8) 3 Not classifiable as to carcinogenicity to humans.

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

Components	Species	Test Results
Sodium Selenite (Na ₂ SeO ₃) (CAS 10102-18-8)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 1,1 mg/l, 48 hours
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.

12.2. Persistence and degradability

12.3. Bioaccumulative potential No data available.

Partition coefficient n-octanol/water (log Kow) Not available.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. 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.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste 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.

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

Disposal methods/information

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.

Special precautions

Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

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

RID

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

ADN

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

IATA

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

IMDG

- 14.1. UN number UN2630
- 14.2. UN proper shipping name SELENITES

14.3. Transport hazard class(es)

Class 6.1

Subsidiary risk -

14.4. Packing group I

14.5. Environmental hazards

Marine pollutant No.

EmS F-A, S-A

14.6. Special precautions for user 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 (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

Copper (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 (CAS 7440-50-8)

Sodium Selenite (Na₂SeO₃) (CAS 10102-18-8)

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. Regulation (EU) No 453/2010 amending Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). Regulation (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

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.

Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices Decree No. 25/2000. (IX. 30.) EüM-SzCsM of the Minister of Health and the Minister of Social and Family Affairs on chemical safety at work Act No. 93 of 1993 on Labour Safety (1993.évi XCIII.), as amended Government Decree No. 220 of 2004 (VII. 21.) providing rules on the protection of surface waters quality

Government Decree No. 98/2001 (VI. 15.), on the conditions of the activities related to hazardous waste, and Ministry of Environmental Affairs Decree No. 16/2001 (VII. 18.), on the register of wastes

Public Act No. XXV of 2000 on Chemical Safety, and Application Decree No. 44/2000. (XII.27.) EüM [of the Ministry of Health]

This safety data sheet conforms to the following laws, regulations and standards:

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.

Training information

Follow training instructions when handling this material.

Disclaimer

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