



MATERION

CHEMICAL PRODUCT SAFETY DATA SHEET

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

Product name: Cu/Na₂SeO₃ Targets

Issue date: 11-29-2018

Revision date: 06-29-2021

Version #: 04

SDS No: G11

SECTION 1 Chemical product and company identification

Chinese name of chemical	NEEDED - CHINESE NAME OR TRADE NAME WITH CHINESE USER DESCRIPTOR.	
English name of chemical	Cu/Na₂SeO₃ Targets	
Manufacturer/Supplier	Materion Advanced Materials Germany GmbH	
Address	Borsigstrasse 10 Alzenau, 63755 Germany	
Contact person	Hermann Schmiing	
Telephone	49.60.23.91.82.0	H. Schmiing
e-mail	Materion.Germany@materion.com	
Emergency telephone number	49.60.23.91.82.0	H. Schmiing
Issue date	11-29-2018	
Revision date	06-29-2021	
Supersedes date	09-25-2020	
SDS No	G11	

SECTION 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.	
GHS hazard categories		
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, 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.

SECTION 3 Composition/information on ingredients

Substance/mixture	Mixture	Concentration (%)	CAS Number
铜		76 - 95	7440-50-8
Copper			
亚硒酸钠 (Na ₂ SeO ₃)		5 - 24	10102-18-8
Sodium Selenite (Na ₂ SeO ₃)			

SECTION 4 First aid measures

Inhalation	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.
Most important symptoms and health effects	Direct contact with eyes may cause temporary irritation.
Personal protection for first-aid responders	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.
Notes to physician	Provide general supportive measures and treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media	Water spray. Foam. Powder. Dry sand. Carbon dioxide (CO ₂).
Extinguishing media to avoid	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards	During fire, gases hazardous to health may be formed.

Special fire fighting procedures	Use water spray to cool unopened containers.
Protection of fire-fighters	Wear suitable protective equipment.
General fire hazards	No unusual fire or explosion hazards noted.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Keep unnecessary personnel away. Ensure adequate ventilation.
For emergency responders	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.

SECTION 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.

SECTION 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 ³	Dust.
		0.2 mg/m ³	Fume.
Sodium Selenite (Na ₂ SeO ₃) (CAS 10102-18-8)	PC-TWA	0.1 mg/m ³	

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.

SECTION 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 ³ estimated
Solubility(ies)	
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	None known.
Other data	
Explosive limit	Not applicable.
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	7.76 estimated
Viscosity	Not applicable.

SECTION 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.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11 Toxicological information

Acute toxicity	Toxic if swallowed.
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Product	Species	Test Results
Cu/Na ₂ SeO ₃ Targets		
Acute		
Oral		
LD50	Lamb	496 mg/kg

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

Routes of exposure	Inhalation. Ingestion.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitizer	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	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 (Na₂SeO₃) (CAS 10102-18-8) 3 Not classifiable as to carcinogenicity to humans.

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

SECTION 12 Ecological information

Ecotoxicological data

Components	Species	Test Results
Copper (CAS 7440-50-8)		
Aquatic		
<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 ₂ SeO ₃) (CAS 10102-18-8)		
Aquatic		
<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.

Ecotoxicity	Based on available data, the classification criteria are not met for hazardous to the aquatic environment, acute hazard.
Persistence and degradability	
Bioaccumulation	No data available.
Mobility in soil	No data available for this product.
Other hazardous 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

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.
Local disposal regulations	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.

SECTION 14 Transport information**CNDG**

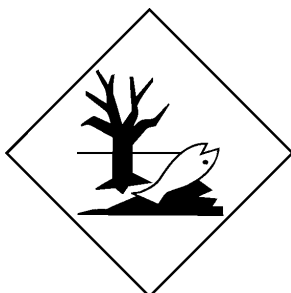
UN number	UN3288
UN proper shipping name	TOXIC SOLID, INORGANIC, N.O.S.
Transport hazard class(es)	
Class	6.1(PGI, II)
Subsidiary risk	-
Packing group	II
Special precautions for user	Not available.

IATA

UN number	UN3288
UN proper shipping name	Toxic solid, inorganic, n.o.s.
Transport hazard class(es)	
Class	6.1(PGI, II)
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	6L
Special precautions for user	Not available.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN3288
UN proper shipping name	TOXIC SOLID, INORGANIC, N.O.S., MARINE POLLUTANT
Transport hazard class(es)	
Class	6.1(PGI, II)
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-A
Special precautions for user	Not available.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

CNDG; IATA; IMDG**Marine pollutant****General information**

IMDG Regulated Marine Pollutant.

SECTION 15 Regulatory information**Law of the People's Republic of China on Prevention and Control of Occupational Diseases****Classification of occupational disease hazards**

COPPER AND ITS COMPOUNDS (CAS 7440-50-8)

SELENIUM AND ITS COMPOUNDS (SELENIUM HEXAFLUORIDE AND HYDROGEN SELENIDE ARE LISTED SEPARATELY) (CAS 10102-18-8)

Regulations on the Control over Safety of Dangerous Chemicals**Catalog of Hazardous Chemicals**

sodium selenite (CAS 10102-18-8)

Provision on the Environmental Administration of New Chemical Substances**China Inventory of Existing Chemical Substances**

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).

Other 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)

China. National Catalogue of Hazardous WastesSodium Selenite (Na₂SeO₃) (CAS 10102-18-8)**International regulations****Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

SECTION 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

Further information

Transportation Emergency
Call Chemtrec at:
International: 703.741.5970
Spain: 900.868.538
Switzerland: 0800.564.402

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Other information

Revised information in Section 16.