



CHEMICAL PRODUCT SAFETY DATA SHEET

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

MATERION

Product name: Copper Gallium with Sodium Selenite

Issue date: 11-29-2018

Version #: 01

SDS No: G14

SECTION 1 Chemical product and company identification

Chinese name of chemical	铜镓与亚硒酸钠
English name of chemical	Copper Gallium with Sodium Selenite
Manufacturer/Supplier	Materion Advanced Materials Germany GmbH
Address	Borsigstrasse 10 Alzenau, 63755 Germany
Contact person	Hermann Schmiing
Telephone	49.60.23.91.82.0
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Emergency telephone number	49.60.23.91.82.0
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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.

Hazard categories

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Category 2
	Acute toxicity, inhalation	Category 3
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 2

Label elements

Pictograms



Signal word

Danger

Hazard statement

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 statement

Prevention

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
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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		
Chemical name	Concentration (%)	CAS Number	
Gallium	10 - 20	7440-55-3	
Sodium Selenite (Na ₂ SeO ₃)	5 - 10	10102-18-8	

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	Not available.
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	None known.
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 applicable.

SECTION 7 Handling and storage

Handling	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
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	Brass.

Odor None.

Odor threshold Not applicable.

pH Not applicable.

Melting point/freezing point Undetermined. / Not applicable.

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

Flash point	Not applicable.
Flammability limit - lower (%)	Not applicable.
Flammability limit - lower (%) temperature	Not applicable.
Flammability limit - upper (%)	Not applicable.
Flammability limit - upper (%) temperature	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	7.96 g/cm ³ estimated
Solubility(ies)	
Solubility (water)	Non-metallic component can partially dissolve.
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.
Explosivity	Not applicable.
Oxidizing properties	Not oxidizing.
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.
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 May cause damage to organs through prolonged or repeated exposure.

SECTION 12 Ecological information

Ecotoxicological data

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.

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 UN2630
UN proper shipping name Selenates or Selenites
Transport hazard class(es)
Class 6.1(PGI, II)
Subsidiary risk -
Packing group I
Special precautions for user Not available.

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.
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.

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

Sodium Selenite (Na_2SeO_3) (CAS 10102-18-8)

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

Gallium (CAS 7440-55-3)
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 Wastes

Sodium 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

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