



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
Synonyms None.
Document number G14
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Version number 01

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 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

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

Physical hazards

Corrosive to metals Category 1 H290 - May be corrosive to metals.

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 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, Gallium, Sodium Selenite (Na₂SeO₃)

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/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. |
| 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 | 75 - 90 | 7440-50-8 231-159-6 | 01-2119480154-42-0080 | 029-019-01-X | |
| Classification: | STOT SE 3;H335 | | | | |
| Gallium | 10 - 20 | 7440-55-3 231-163-8 | - | - | |
| Classification: | Skin Corr. 1C;H314, Eye Dam. 1;H318 | | | | |
| Sodium Selenite (Na ₂ SeO ₃) | 5 - 10 | 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. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s) Not applicable.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Poland. MACs. Regulation regarding maximum permissible concentrations and intensities of harmful factors in the work environment, Annex 1

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

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.

pH Not applicable.

Melting point/freezing point Undetermined. / 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 - 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.

Vapour pressure Not applicable.

Vapour density Not applicable.

Relative density Not applicable.

| | |
|--|--|
| 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. |
| Viscosity | Not applicable. |
| Explosive properties | Not available. |
| Oxidising properties | Not oxidising. |

9.2. Other information

| | |
|------------------------|----------------------------------|
| Density | 7,96 g/cm ³ estimated |
| Explosive limit | Not applicable. |
| Explosivity | Not applicable. |

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. |

IARC Monographs. Overall Evaluation of Carcinogenicity

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

| | |
|---|---|
| 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 K_{ow}) 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 Read safety instructions, SDS and emergency procedures before handling.

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 Read safety instructions, SDS and emergency procedures before handling.

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 Read safety instructions, SDS and emergency procedures before handling.

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 Read safety instructions, SDS and emergency procedures before handling.

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 Read safety instructions, SDS and emergency procedures before handling.

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. Additional information is given in the Safety Data Sheet.

National regulations

Follow national regulation for work with chemical agents.

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

Act on the management of packaging and packaging waste of June 13, 2013

Regulation of the Minister of Health of June 11, 2012 on the categories of dangerous substances and dangerous preparations whose packaging should be fitted with child-resistant closures and a tactile warning of danger

REGULATION OF THE MINISTER OF HEALTH of February 2, 2011 on tests and measurements of factors harmful to health in working environments

Regulation of Ministry of Labor and Social Policy of November 29, 2002. On the matter of maximum permissible concentrations and intensities of harmful factors in the work environment (Journal of Laws No. 217, item. 1,833)

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.

Poland. Substances that could yield hazardous waste (Law on waste, DZ.U. poz. 21/2013, Annex 4)

Copper (CAS 7440-50-8)

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

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

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 calculation methods and test data, if available.

Disclaimer

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