



# SAFETY DATA SHEET

**MATERION**

## 1. Identification

**Product identifier** CuNiSbS

**Other means of identification**

SDS number 1VM

Materion Code 1VM

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company name** Materion Advanced Chemicals Inc.

**Address** 407 N 13th Street  
1316 W. St. Paul Avenue  
Milwaukee, WI 53233  
United States

**Telephone** 414.212.0257

**E-mail** advancedmaterials@materion.com

**Contact person** Noreen Atkinson

**Emergency phone number** Chemtrec 800.424.9300

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards**

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2B

Sensitization, skin Category 1

Carcinogenicity Category 2

Specific target organ toxicity, repeated exposure Category 1

**Environmental hazards**

Hazardous to the aquatic environment, acute hazard Category 1

Hazardous to the aquatic environment, long-term hazard Category 1

**OSHA defined hazards** Not classified.

### Label elements



**Signal word** Danger

**Hazard statement** Causes skin irritation. May cause an allergic skin reaction. Causes eye irritation. Suspected of causing cancer. Causes damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

**Precautionary statement**

**Prevention** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

|  |  |
|--|--|
| <b>Response</b>                                  | If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Collect spillage.                                |
| <b>Storage</b>                                   | Store locked up.   |
| <b>Disposal</b>                                  | Dispose of contents/container in accordance with local/regional/national/international regulations.  |
| <b>Hazard(s) not otherwise classified (HNOC)</b> | None known.  |
| <b>Supplemental information</b>                  | 27% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment. 112% of the mixture consists of component(s) of unknown acute oral toxicity. 27% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 112% of the mixture consists of component(s) of unknown acute dermal toxicity. For further information, please contact the Product Stewardship Department at +1.800.862.4118. |

### 3. Composition/information on ingredients

#### Mixtures

| Chemical name | Common name and synonyms | CAS number | %       |
|---------------|--------------------------|------------|---------|
| copper        |                          | 7440-50-8  | 40 - 45 |
| Antimony      |                          | 7440-36-0  | 25 - 35 |
| Sulfur        |                          | 7704-34-9  | 21 - 27 |
| Nickel        |                          | 7440-02-0  | 1 - 5   |

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

### 4. First-aid measures

|   |   |
|---|---|
| <b>Inhalation</b>   | Move to fresh air. Call a physician if symptoms develop or persist.   |
| <b>Skin contact</b>   | Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.   |
| <b>Eye contact</b>  | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.   |
| <b>Ingestion</b>  | Rinse mouth. Get medical attention if symptoms occur.   |
| <b>Most important symptoms/effects, acute and delayed</b>                     | Headache. Dizziness. Nausea, vomiting. Diarrhea. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Coughing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects. |
| <b>Indication of immediate medical attention and special treatment needed</b> | Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.  |
| <b>General information</b>  | IF exposed or concerned: Get medical advice/attention. 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. Wash contaminated clothing before reuse.                 |

### 5. Fire-fighting measures

|  |   |
|--|---|
| <b>Suitable extinguishing media</b>                                  | Foam. Powder. Dry sand.   |
| <b>Unsuitable extinguishing media</b>                                | Do not use water jet as an extinguisher, as this will spread the fire.                        |
| <b>Specific hazards arising from the chemical</b>                    | During fire, gases hazardous to health may be formed.   |
| <b>Special protective equipment and precautions for firefighters</b> | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| <b>Fire fighting equipment/instructions</b>                          | Move containers from fire area if you can do so without risk.                                 |
| <b>Specific methods</b>  | Use standard firefighting procedures and consider the hazards of other involved materials.    |

**General fire hazards** No unusual fire or explosion hazards noted.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up** Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

**Environmental precautions** Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities** Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components               | Type | Value                 | Form           |
|--------------------------|------|-----------------------|----------------|
| Antimony (CAS 7440-36-0) | PEL  | 0.5 mg/m <sup>3</sup> |                |
| copper (CAS 7440-50-8)   | PEL  | 1 mg/m <sup>3</sup>   | Dust and mist. |
|                          |      | 0.1 mg/m <sup>3</sup> | Fume.          |
| Nickel (CAS 7440-02-0)   | PEL  | 1 mg/m <sup>3</sup>   |                |

#### US. ACGIH Threshold Limit Values

| Components               | Type | Value                 |
|--------------------------|------|-----------------------|
| Antimony (CAS 7440-36-0) | TWA  | 0.5 mg/m <sup>3</sup> |

#### US. NIOSH: Pocket Guide to Chemical Hazards

| Components               | Type | Value                   | Form           |
|--------------------------|------|-------------------------|----------------|
| Antimony (CAS 7440-36-0) | TWA  | 0.5 mg/m <sup>3</sup>   |                |
| copper (CAS 7440-50-8)   | TWA  | 1 mg/m <sup>3</sup>     | Dust and mist. |
| Nickel (CAS 7440-02-0)   | TWA  | 0.015 mg/m <sup>3</sup> |                |

#### US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

| Components               | Type | Value                 | Form           |
|--------------------------|------|-----------------------|----------------|
| Antimony (CAS 7440-36-0) | PEL  | 0.5 mg/m <sup>3</sup> |                |
| copper (CAS 7440-50-8)   | PEL  | 1 mg/m <sup>3</sup>   | Dust and mist. |
|                          |      | 0.1 mg/m <sup>3</sup> | Fume.          |

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

| Components   | Type   | Value     | Form |
|--|--|-----------|------|
| Nickel (CAS 7440-02-0)   | PEL  | 0.5 mg/m3 |      |
| <b>Biological limit values</b>   | No biological exposure limits noted for the ingredient(s).   |           |      |
| <b>Appropriate engineering controls</b>                                      | 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. Eye wash facilities and emergency shower must be available when handling this product. |           |      |
| <b>Control parameters</b>  | Follow standard monitoring procedures.   |           |      |
| <b>Individual protection measures, such as personal protective equipment</b> |  |           |      |
| <b>Eye/face protection</b>   | Wear safety glasses with side shields (or goggles).  |           |      |
| <b>Skin protection</b>   |  |           |      |
| <b>Hand protection</b>   | Wear appropriate chemical resistant gloves.  |           |      |
| <b>Other</b>   | Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.   |           |      |
| <b>Respiratory protection</b>  | In case of insufficient ventilation, wear suitable respiratory equipment.  |           |      |
| <b>Thermal hazards</b>   | Wear appropriate thermal protective clothing, when necessary.  |           |      |
| <b>General hygiene considerations</b>  | Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Contaminated work clothing should not be allowed out of the workplace.  |           |      |

## 9. Physical and chemical properties

### Appearance

|   |                                |
|---|--------------------------------|
| <b>Physical state</b>                               | Solid.                         |
| <b>Form</b>   | Solid.                         |
| <b>Color</b>  | Not available.                 |
| <b>Odor</b>   | Not available.                 |
| <b>Odor threshold</b>                               | Not available.                 |
| <b>pH</b>   | Not available.                 |
| <b>Melting point/freezing point</b>                 | 235.04 °F (112.8 °C) estimated |
| <b>Initial boiling point and boiling range</b>      | 832.28 °F (444.6 °C) estimated |
| <b>Flash point</b>                                  | 405.0 °F (207.2 °C) estimated  |
| <b>Evaporation rate</b>                             | Not available.                 |
| <b>Flammability (solid, gas)</b>                    | Not available.                 |
| <b>Upper/lower flammability or explosive limits</b> |                                |
| <b>Flammability limit - lower (%)</b>               | Not available.                 |
| <b>Flammability limit - upper (%)</b>               | Not available.                 |
| <b>Explosive limit - lower (%)</b>                  | Not available.                 |
| <b>Explosive limit - upper (%)</b>                  | Not available.                 |
| <b>Vapor pressure</b>                               | 0.03 hPa estimated             |
| <b>Vapor density</b>                                | Not available.                 |
| <b>Relative density</b>                             | Not available.                 |
| <b>Solubility(ies)</b>                              |                                |
| <b>Solubility (water)</b>                           | Not available.                 |
| <b>Partition coefficient (n-octanol/water)</b>      | Not available.                 |

|                                  |                                  |
|----------------------------------|----------------------------------|
| <b>Auto-ignition temperature</b> | 450 °F (232.22 °C) estimated     |
| <b>Decomposition temperature</b> | Not available.                   |
| <b>Viscosity</b>                 | Not available.                   |
| <b>Other information</b>         |                                  |
| <b>Density</b>                   | 6.54 g/cm <sup>3</sup> estimated |
| <b>Explosive properties</b>      | Not explosive.                   |
| <b>Oxidizing properties</b>      | Not oxidizing.                   |
| <b>Specific gravity</b>          | 6.54 estimated                   |

## 10. Stability and reactivity

|   |   |
|---|---|
| <b>Reactivity</b>                         | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| <b>Chemical stability</b>                 | Material is stable under normal conditions.   |
| <b>Possibility of hazardous reactions</b> | No dangerous reaction known under conditions of normal use.                                   |
| <b>Conditions to avoid</b>                | Contact with incompatible materials.  |
| <b>Incompatible materials</b>             | Strong acids. Strong oxidizing agents.  |
| <b>Hazardous decomposition products</b>   | No hazardous decomposition products are known.  |

## 11. Toxicological information

### Information on likely routes of exposure

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | Prolonged inhalation may be harmful.                         |
| <b>Skin contact</b> | Causes skin irritation. May cause an allergic skin reaction. |
| <b>Eye contact</b>  | Causes eye irritation.                                       |
| <b>Ingestion</b>    | Expected to be a low ingestion hazard.                       |

|   |   |
|---|---|
| <b>Symptoms related to the physical, chemical and toxicological characteristics</b> | Headache. Dizziness. Nausea, vomiting. Diarrhea. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Coughing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. |
|---|---|

### Information on toxicological effects

|  |  |
|--|--|
| <b>Acute toxicity</b>                    | Not known.   |
| <b>Skin corrosion/irritation</b>         | Causes skin irritation.  |
| <b>Serious eye damage/eye irritation</b> | Causes eye irritation.   |
| <b>Respiratory or skin sensitization</b> |  |
| <b>Respiratory sensitization</b>         | Not a respiratory sensitizer.  |
| <b>Skin sensitization</b>                | May cause an allergic skin reaction.   |
| <b>Germ cell mutagenicity</b>            | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| <b>Carcinogenicity</b>                   | Suspected of causing cancer.   |

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Nickel (CAS 7440-02-0) 2B Possibly carcinogenic to humans.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

#### US. National Toxicology Program (NTP) Report on Carcinogens

Nickel (CAS 7440-02-0) Known To Be Human Carcinogen.  
Reasonably Anticipated to be a Human Carcinogen.

|   |  |
|---|--|
| <b>Reproductive toxicity</b>                            | This product is not expected to cause reproductive or developmental effects. |
| <b>Specific target organ toxicity - single exposure</b> | Not classified.  |

|   |  |
|---|--|
| <b>Specific target organ toxicity - repeated exposure</b> | Causes damage to organs through prolonged or repeated exposure.  |
| <b>Aspiration hazard</b>                                  | Not an aspiration hazard.  |
| <b>Chronic effects</b>                                    | Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. |

## 12. Ecological information

**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

| Product                  |      | Species                                   | Test Results                    |
|--------------------------|------|---|---------------------------------|
| CuNiSbS                  |      |   |                                 |
| <b>Aquatic</b>           |      |   |                                 |
| Crustacea                | EC50 | Daphnia                                   | 0.3554 mg/l, 48 hours estimated |
| Fish                     | LC50 | Fish                                      | 4.2537 mg/l, 96 hours estimated |
| Components               |      | Species                                   | Test Results                    |
| Antimony (CAS 7440-36-0) |      |   |                                 |
| <b>Aquatic</b>           |      |   |                                 |
| Fish                     | LC50 | Sheepshead minnow (Cyprinodon variegatus) | 6.2 - 8.3 mg/l, 96 hours        |
| copper (CAS 7440-50-8)   |      |   |                                 |
| <b>Aquatic</b>           |      |   |                                 |
| Crustacea                | EC50 | Water flea (Daphnia magna)                | 0.036 mg/l, 48 hours            |
| Fish                     | LC50 | Fathead minnow (Pimephales promelas)      | 0.0319 - 0.0544 mg/l, 96 hours  |
| Sulfur (CAS 7704-34-9)   |      |   |                                 |
| <b>Aquatic</b>           |      |   |                                 |
| Fish                     | LC50 | Western mosquitofish (Gambusia affinis)   | > 10000 mg/l, 96 hours          |

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

|                                      |   |
|--------------------------------------|---|
| <b>Persistence and degradability</b> | No data is available on the degradability of this product.  |
| <b>Bioaccumulative potential</b>     | No data available.  |
| <b>Mobility in soil</b>              | No data available.  |
| <b>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. |

## 13. Disposal considerations

|  |  |
|--|--|
| <b>Disposal instructions</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>Local disposal regulations</b>            | Dispose in accordance with all applicable regulations.   |
| <b>Hazardous waste code</b>                  | The waste code should be assigned in discussion between the user, the producer and the waste disposal company.   |
| <b>Waste from residues / unused products</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.   |

## 14. Transport information

### DOT

|                              |   |
|------------------------------|---|
| UN number                    | UN3178  |
| UN proper shipping name      | Flammable solid, inorganic, n.o.s. (Sulfur)                             |
| Transport hazard class(es)   |   |
| Class                        | 4.1   |
| Subsidiary risk              | -   |
| Label(s)                     | 4.1   |
| Packing group                | III   |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Special provisions           | A1, IB8, IP3, T1, TP33  |
| Packaging exceptions         | 151   |
| Packaging non bulk           | 213   |
| Packaging bulk               | 240   |

### IATA

|                              |   |
|------------------------------|---|
| UN number                    | UN3178  |
| UN proper shipping name      | Flammable solid, inorganic, n.o.s. (Sulfur)                             |
| Transport hazard class(es)   |   |
| Class                        | 4.1   |
| Subsidiary risk              | -   |
| Packing group                | III   |
| Environmental hazards        | Yes   |
| ERG Code                     | 3L  |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Other information            |   |
| Passenger and cargo aircraft | Allowed with restrictions.  |
| Cargo aircraft only          | Allowed with restrictions.  |

### IMDG

|                              |   |
|------------------------------|---|
| UN number                    | UN3178  |
| UN proper shipping name      | FLAMMABLE SOLID, INORGANIC, N.O.S. (Sulfur), MARINE POLLUTANT           |
| Transport hazard class(es)   |   |
| Class                        | 4.1   |
| Subsidiary risk              | -   |
| Packing group                | III   |
| Environmental hazards        |   |
| Marine pollutant             | Yes   |
| EmS                          | F-A, S-G  |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

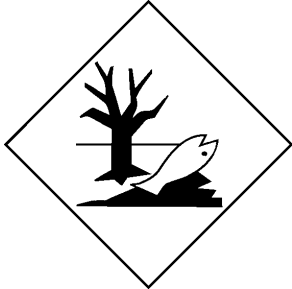
### DOT



IATA; IMDG



Marine pollutant



General information

IMDG Regulated Marine Pollutant.

## 15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

|                          |         |
|--------------------------|---------|
| Antimony (CAS 7440-36-0) | Listed. |
| copper (CAS 7440-50-8)   | Listed. |
| Nickel (CAS 7440-02-0)   | Listed. |

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

Immediate Hazard - Yes  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

| Chemical name | CAS number | % by wt. |
|---------------|------------|----------|
| Antimony      | 7440-36-0  | 25 - 35  |
| copper        | 7440-50-8  | 40 - 45  |
| Nickel        | 7440-02-0  | 1 - 5    |

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Antimony (CAS 7440-36-0)  
Nickel (CAS 7440-02-0)



**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations** WARNING: This product contains a chemical known to the State of California to cause cancer.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Nickel (CAS 7440-02-0)

Listed: October 1, 1989

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Antimony (CAS 7440-36-0)

copper (CAS 7440-50-8)

Nickel (CAS 7440-02-0)

**16. Other information, including date of preparation or last revision**

**Issue date** 02-28-2017

**Revision date** 01-12-2018

**Version #** 02

**Disclaimer**

Materion Advanced Chemicals Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.