



# SAFETY DATA SHEET

**MATERION**

## 1. Identification

|   |  |
|---|--|
| <b>Product identifier</b>                                     | Copper Phosphide   |
| <b>Other means of identification</b>                          |  |
| SDS number  | 131  |
| CAS number  | 12019-57-7   |
| <b>Manufacturer/Importer/Supplier/Distributor information</b> |  |
| <b>Manufacturer</b>   |  |
| Company name  | Materion Electronic Materials  |
| Address   | 6070 Parkland Boulevard<br>Mayfield Heights, OH 44124<br>United States |
| Telephone   | 1.216.383.4019   |
| Website   | materion.com   |
| E-mail  | Theodore.Knudson@materion.com  |
| Contact person  | Theodore Knudson   |
| <b>Emergency phone number</b>                                 | See Section 16.  |

## 2. Hazard(s) identification

|  |   |
|--|---|
| <b>Physical hazards</b>                          | Not classified.   |
| <b>Health hazards</b>                            | Not classified.   |
| <b>Environmental hazards</b>                     | Not classified.   |
| <b>OSHA defined hazards</b>                      | Not classified.   |
| <b>Label elements</b>                            |   |
| Hazard symbol                                    | None.   |
| Signal word                                      | None.   |
| Hazard statement                                 | The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated. |
| Precautionary statement                          |   |
| Prevention                                       | Observe good industrial hygiene practices.  |
| Response   | Wash hands after handling.  |
| Storage  | Store away from incompatible materials.   |
| Disposal   | Dispose of waste and residues in accordance with local authority requirements.  |
| <b>Hazard(s) not otherwise classified (HNOC)</b> | None known.   |
| <b>Supplemental information</b>                  | For further information, please contact the Product Stewardship Department at +1.216.383.4019.  |

## 3. Composition/information on ingredients

### Substances

| Chemical name    | Common name and synonyms | CAS number | %   |
|------------------|--------------------------|------------|-----|
| Copper Phosphide |                          | 12019-57-7 | 100 |

## 4. First-aid measures

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | Move to fresh air. Call a physician if symptoms develop or persist.                      |
| <b>Skin contact</b> | Wash off with soap and water. Get medical attention if irritation develops and persists. |

|   |  |
|---|--|
| <b>Eye contact</b>  | Rinse with water. 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>                     | Direct contact with eyes may cause temporary irritation.   |
| <b>Indication of immediate medical attention and special treatment needed</b> | Treat symptomatically.   |
| <b>General information</b>  | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

## 5. Fire-fighting measures

|  |   |
|--|---|
| <b>Suitable extinguishing media</b>                                  | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).                      |
| <b>Unsuitable extinguishing media</b>                                | None known.   |
| <b>Specific hazards arising from the chemical</b>                    | This product is not flammable.  |
| <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>                          | Use water spray to cool unopened containers.  |
| <b>Specific methods</b>  | Use standard firefighting procedures and consider the hazards of other involved materials.    |
| <b>General fire hazards</b>  | No unusual fire or explosion hazards noted.   |

## 6. Accidental release measures

|  |   |
|--|---|
| <b>Personal precautions, protective equipment and emergency procedures</b> | Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.   |
| <b>Methods and materials for containment and cleaning up</b>               | Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. |
| <b>Environmental precautions</b>   | Avoid discharge into drains, water courses or onto the ground.  |

## 7. Handling and storage

|   |  |
|---|--|
| <b>Precautions for safe handling</b>                                | Avoid prolonged exposure. Observe good industrial hygiene practices.                                   |
| <b>Conditions for safe storage, including any incompatibilities</b> | Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). |

## 8. Exposure controls/personal protection

### Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

#### US. ACGIH Threshold Limit Values

| Material                          | Type | Value                 | Form           |
|-----------------------------------|------|-----------------------|----------------|
| Copper Phosphide (CAS 12019-57-7) | TWA  | 1 mg/m <sup>3</sup>   | Dust and mist. |
|                                   |      | 0.2 mg/m <sup>3</sup> | Fume.          |

|  |   |
|--|---|
| <b>Biological limit values</b>   | No biological exposure limits noted for the ingredient(s).  |
| <b>Appropriate engineering controls</b>                                      | Good general ventilation 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. |
| <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 suitable protective clothing.  |
| <b>Respiratory protection</b> | In case of insufficient ventilation, wear suitable respiratory equipment. |
| <b>Thermal hazards</b>        | Wear appropriate thermal protective clothing, when necessary.             |

**General hygiene considerations** 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.

**Occupational exposure limits**

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

| <b>Material</b>                   | <b>Type</b> | <b>Value</b>        | <b>Form</b>    |
|-----------------------------------|-------------|---------------------|----------------|
| Copper Phosphide (CAS 12019-57-7) | PEL         | 1 mg/m <sup>3</sup> | Dust and mist. |

**9. Physical and chemical properties**

**Appearance**

|                       |                |
|-----------------------|----------------|
| <b>Physical state</b> | Solid.         |
| <b>Form</b>           | Solid.         |
| <b>Color</b>          | Yellowish grey |

**Odor** None.

**Odor threshold** Not applicable

**pH** Not applicable

**Melting point/freezing point** 1652 °F (900 °C)

**Initial boiling point and boiling range** Not applicable

**Flash point** Not applicable

**Evaporation rate** Not applicable

**Flammability (solid, gas)** Not applicable.

**Upper/lower flammability or explosive limits**

|  |                |
|--|----------------|
| <b>Flammability limit - lower (%)</b>          | Not applicable |
| <b>Flammability limit - upper (%)</b>          | Not applicable |
| <b>Explosive limit - lower (%)</b>             | Not applicable |
| <b>Explosive limit - lower (%) temperature</b> | Not applicable |
| <b>Explosive limit - upper (%)</b>             | Not applicable |
| <b>Explosive limit - upper (%) temperature</b> | Not applicable |

**Vapor pressure** Not applicable

**Vapor density** Not applicable

**Relative density** Not applicable

**Solubility(ies)**

**Solubility (water)** Not applicable

**Partition coefficient (n-octanol/water)** Not applicable

**Auto-ignition temperature** Not applicable

**Decomposition temperature** Not applicable

Viscosity Not applicable

**Other information**

Explosive limit Not applicable

Explosive properties Not explosive.

Molecular formula Cu<sub>3</sub>P

Molecular weight 252.59 g/mol

Oxidizing properties Not oxidizing.

**10. Stability and reactivity**

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

**Chemical stability** Material is stable under normal conditions.

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

**Conditions to avoid** Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.

**Incompatible materials** Strong oxidizing agents.

**Hazardous decomposition products** No hazardous decomposition products are known.

**11. Toxicological information**

**Information on likely routes of exposure**

**Inhalation** Prolonged inhalation may be harmful.

**Skin contact** No adverse effects due to skin contact are expected.

**Eye contact** Direct contact with eyes may cause temporary irritation.

**Ingestion** Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation.

**Information on toxicological effects**

**Acute toxicity** Not known.

**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 sensitization** 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** Not classifiable as to carcinogenicity to humans.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

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

Not listed.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not classified.

|   |                                      |
|---|--------------------------------------|
| <b>Specific target organ toxicity - repeated exposure</b> | Not classified.                      |
| <b>Aspiration hazard</b>                                  | Not an aspiration hazard.            |
| <b>Chronic effects</b>                                    | Prolonged inhalation may be harmful. |

## 12. Ecological information

|                                      |  |
|--------------------------------------|--|
| <b>Ecotoxicity</b>                   | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
| <b>Persistence and degradability</b> | No data is available on the degradability of this substance.   |
| <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.   |
| <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

|             |                                   |
|-------------|-----------------------------------|
| <b>DOT</b>  | Not regulated as dangerous goods. |
| <b>IATA</b> | Not regulated as dangerous goods. |
| <b>IMDG</b> | Not regulated as dangerous goods. |

## 15. Regulatory information

|                               |  |
|-------------------------------|--|
| <b>US federal regulations</b> | This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. |
|-------------------------------|--|

### Toxic Substances Control Act (TSCA)

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

Not regulated.

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

Copper Phosphide (CAS 12019-57-7) Listed.

### SARA 304 Emergency release notification

Not regulated.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

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

#### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

| <b>Chemical name</b> | <b>CAS number</b> | <b>% by wt.</b> |
|----------------------|-------------------|-----------------|
| Copper Phosphide     | 12019-57-7        | 100             |

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

Not regulated.

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

Not regulated.

**Clean Water Act (CWA)  
Section 112(r) (40 CFR  
68.130)**                      Priority pollutant  
   Toxic pollutant

**Safe Drinking Water Act  
(SDWA)**                      Listed. Contains component(s) regulated under the Safe Drinking Water Act.

**US state regulations****California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

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

**Issue date**                      02-17-2023

**Version #**                        01

**Further information**                      Transportation Emergency  
   Call Chemtrec at:  
   US: 800.424.9300  
   International: 703.741.5970  
   Spain: 900.868.538  
   Switzerland: 0800.564.402  
   Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059  
   South Korea Toll-free Number – 080-880-0468

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