



# SAFETY DATA SHEET

**MATERION**

## 1. Identification

**Product identifier** Zirconium Copper Targets

**Other means of identification**

**SDS number** G54

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

**Manufacturer**

**Company name** Materion Advanced Materials Germany GmbH

**Address** Borsigstrasse 10  
Germany

**Telephone** 49.60.23.91.82.0

**Website** www.materion.com

**E-mail** Materion.Germany@materion.com

**Contact person** Hermann Schmiing

**Emergency phone number** 49.60.23.91.82.0

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Not classified.

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

**Label elements**

**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.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** 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 | %       |
|---------------|--------------------------|------------|---------|
| Zirconium     |                          | 7440-67-7  | 50 - 75 |
| Copper        |                          | 7440-50-8  | 25 - 50 |

## 4. First-aid measures

**Inhalation** Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.

|   |  |
|---|--|
| <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. If eye irritation persists: Get medical advice/attention. |
| <b>Ingestion</b>  | Rinse mouth. Get medical attention if symptoms occur.  |
| <b>Most important symptoms/effects, acute and delayed</b> | Under normal conditions of intended use, this material does not pose a risk to health.   |
| <b>General information</b>                                | 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.          |

## 5. Fire-fighting measures

|  |  |
|--|--|
| <b>Suitable extinguishing media</b>                                  | Powder. Dry sand.  |
| <b>Unsuitable extinguishing media</b>                                | Carbon dioxide (CO2).  |
| <b>Specific hazards arising from the chemical</b>                    | Non-combustible, substance itself does not burn.   |
| <b>Special protective equipment and precautions for firefighters</b> | Wear suitable protective equipment.  |
| <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. |
| <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 PIS.                |
| <b>Methods and materials for containment and cleaning up</b>               | Stop the flow of material, if this is without risk. For waste disposal, see section 13 of the PIS. |
| <b>Environmental precautions</b>   | No special environmental precautions required.   |

## 7. Handling and storage

|   |   |
|---|---|
| <b>Precautions for safe handling</b>                                | Observe good industrial hygiene practices.                          |
| <b>Conditions for safe storage, including any incompatibilities</b> | Store away from incompatible materials (see Section 10 of the PIS). |

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

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

#### US. ACGIH Threshold Limit Values

| Components                | Type | Value                 | Form           |
|---------------------------|------|-----------------------|----------------|
| Copper (CAS 7440-50-8)    | TWA  | 1 mg/m <sup>3</sup>   | Dust and mist. |
|                           |      | 0.2 mg/m <sup>3</sup> | Fume.          |
| Zirconium (CAS 7440-67-7) | STEL | 10 mg/m <sup>3</sup>  |                |
|                           | TWA  | 5 mg/m <sup>3</sup>   |                |

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

| Components             | Type | Value               | Form           |
|------------------------|------|---------------------|----------------|
| Copper (CAS 7440-50-8) | TWA  | 1 mg/m <sup>3</sup> | Dust and mist. |

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

| Components                | Type | Value                 | Form  |
|---------------------------|------|-----------------------|-------|
| Zirconium (CAS 7440-67-7) | STEL | 0.1 mg/m <sup>3</sup> | Fume. |
|                           |      | 10 mg/m <sup>3</sup>  |       |
|                           | TWA  | 5 mg/m <sup>3</sup>   |       |

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

| Components             | Type | Value                 | Form           |
|------------------------|------|-----------------------|----------------|
| Copper (CAS 7440-50-8) | PEL  | 1 mg/m <sup>3</sup>   | Dust and mist. |
|                        |      | 0.1 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. Provide eyewash station. |
| <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 gloves to prevent metal cuts and skin abrasions during handling.  |
| <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.  |
| <b>General hygiene considerations</b>  | 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.  |

**9. Physical and chemical properties****Appearance**

|  |                 |
|--|-----------------|
| <b>Physical state</b>                          | Solid.          |
| <b>Form</b>                                    | Solid.          |
| <b>Color</b>                                   | Grey.           |
| <b>Odor</b>                                    | None.           |
| <b>Odor threshold</b>                          | Not applicable. |
| <b>pH</b>                                      | Not applicable. |
| <b>Melting point/freezing point</b>            | Not applicable. |
| <b>Initial boiling point and boiling range</b> | Not applicable. |
| <b>Flash point</b>                             | Not applicable. |
| <b>Evaporation rate</b>                        | Not applicable. |
| <b>Flammability (solid, gas)</b>               | Not applicable. |

**Upper/lower flammability or explosive limits**

|  |                 |
|--|-----------------|
| <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. |
| <b>Vapor pressure</b>                          | Not applicable. |
| <b>Vapor density</b>                           | Not applicable. |

|  |                 |
|--|-----------------|
| <b>Relative density</b>                        | Not applicable. |
| <b>Solubility(ies)</b>                         |                 |
| <b>Solubility (water)</b>                      | Insoluble.      |
| <b>Partition coefficient (n-octanol/water)</b> | Not applicable. |
| <b>Auto-ignition temperature</b>               | Not applicable. |
| <b>Decomposition temperature</b>               | Not applicable. |
| <b>Viscosity</b>                               | Not applicable. |
| <b>Other information</b>                       |                 |
| <b>Density</b>                                 | Not applicable. |
| <b>Explosive properties</b>                    | Not explosive.  |
| <b>Flammability</b>                            | Not flammable.  |
| <b>Oxidizing properties</b>                    | Not oxidizing.  |

## 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> | Hazardous polymerization does not occur.  |
| <b>Conditions to avoid</b>                | Contact with incompatible materials.  |
| <b>Incompatible materials</b>             | Acids. Alkalies.  |
| <b>Hazardous decomposition products</b>   | No hazardous decomposition products are known.  |

## 11. Toxicological information

### Information on likely routes of exposure

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | No adverse effects due to inhalation are expected. |
| <b>Skin contact</b> | Not likely, due to the form of the product.        |
| <b>Eye contact</b>  | Not likely, due to the form of the product.        |
| <b>Ingestion</b>    | Expected to be a low ingestion hazard.             |

**Symptoms related to the physical, chemical and toxicological characteristics** None known.

### Information on toxicological effects

|  |   |
|--|---|
| <b>Acute toxicity</b>                    | None known.                                       |
| <b>Skin corrosion/irritation</b>         | Not likely, due to the form of the product.       |
| <b>Serious eye damage/eye irritation</b> | None known.                                       |
| <b>Respiratory or skin sensitization</b> |   |
| <b>Respiratory sensitization</b>         | Not a respiratory sensitizer.                     |
| <b>Skin sensitization</b>                | Not a skin sensitizer.                            |
| <b>Germ cell mutagenicity</b>            | Not classified.                                   |
| <b>Carcinogenicity</b>                   | Not classifiable as to carcinogenicity to humans. |

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

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

Not listed.

|   |                           |
|---|---------------------------|
| <b>Reproductive toxicity</b>                              | Not classified.           |
| <b>Specific target organ toxicity - single exposure</b>   | Not classified.           |
| <b>Specific target organ toxicity - repeated exposure</b> | Not classified.           |
| <b>Aspiration hazard</b>                                  | Not an aspiration hazard. |
| <b>Chronic effects</b>                                    | None known.               |

## 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 any ingredients in the mixture.   |
| <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. 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

|             |                                   |
|-------------|-----------------------------------|
| <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. |         |
| <b>Toxic Substances Control Act (TSCA)</b>                            |  |         |
| <b>TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)</b>  | Not regulated.   |         |
| <b>CERCLA Hazardous Substance List (40 CFR 302.4)</b>                 | Copper (CAS 7440-50-8)   | Listed. |
| <b>SARA 304 Emergency release notification</b>                        | Not regulated.   |         |
| <b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)</b> | Not regulated.   |         |

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

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical**      No (Exempt)

**SARA 313 (TRI reporting)**

| <b>Chemical name</b> | <b>CAS number</b> | <b>% by wt.</b> |
|----------------------|-------------------|-----------------|
| Copper               | 7440-50-8         | 25 - 50         |

**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.

**Safe Drinking Water Act (SDWA)**      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 1986 (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).

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

Copper (CAS 7440-50-8)

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

**Issue date**      09-03-2019

**Version #**      01

**Further information**      Transportation Emergency  
Call Chemtrec at:  
Domestic: 800.424.9300  
International: 703.527.3887

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