



# PRODUCT INFORMATION SHEET

**MATERION**

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

|   |                        |
|---|------------------------|
| <b>Trade name or designation of the mixture</b> | Copper Gallium Targets |
| <b>Registration number</b>                      | -                      |
| <b>Document number</b>                          | G04                    |
| <b>Synonyms</b>                                 | None.                  |
| <b>Issue date</b>                               | 07-June-2019           |
| <b>Version number</b>                           | 03                     |
| <b>Revision date</b>                            | 28-May-2021            |
| <b>Supersedes date</b>                          | 07-June-2019           |

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

|                             |   |
|-----------------------------|---|
| <b>Identified uses</b>      | Industrial uses: Uses of substances as such or in preparations at industrial sites<br>Offshore industries<br>Manufacture of basic metals, including alloys<br>Manufacture of computer, electronic and optical products, electrical equipment<br>General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment<br>Scientific research and development<br>Other: Manufacture of medical and defense equipment |
| <b>Uses advised against</b> | Professional uses: Public domain (administration, education, entertainment, services, craftsmen)<br>Consumer uses: Private households (= general public = consumers)  |

### 1.3. Details of the supplier of the safety data sheet

#### Supplier

|                       |  |
|-----------------------|--|
| <b>Company name</b>   | Materion Advanced Materials  |
| <b>Address</b>        | 6070 Parkland Boulevard<br>Mayfield Heights, OH 44124<br>United States |
| <b>Division</b>       |  |
| <b>Telephone</b>      | 1.216.383.4019   |
| <b>e-mail</b>         | ehs@materion.com   |
| <b>Contact person</b> | Theodore Knudson   |

### 1.4. Emergency telephone number

See Section 16.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

The mixture 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

##### Environmental hazards

Hazardous to the aquatic environment, acute Category 1  
aquatic hazard

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

#### Hazard summary

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.

### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

|                          |  |
|--------------------------|--|
| <b>Contains:</b>         | COPPER FLAKES (COATED WITH ALIPHATIC ACID), Gallium        |
| <b>Hazard pictograms</b> | None.  |
| <b>Signal word</b>       | None.  |
| <b>Hazard statements</b> | The mixture does not meet the criteria for classification. |

## Precautionary statements

### Prevention

P264 Wash thoroughly after handling.

### Response

P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### 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 FLAKES (COATED WITH ALIPHATIC ACID)                 | 55 - 85 | 7440-50-8<br>231-159-6 | 01-2119480154-42-0080  | -         |       |
| <b>Classification:</b> -                                   |         |                        |                        |           |       |
| Gallium  | 15 - 45 | 7440-55-3<br>231-163-8 | -                      | -         |       |
| <b>Classification:</b> Skin Corr. 1C;H314, Eye Dam. 1;H318 |         |                        |                        |           |       |

## 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

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

##### Skin contact

Get medical attention if irritation develops and persists.

##### Eye contact

Rinse with water. Get medical attention if irritation develops or persists.

##### Ingestion

Rinse mouth. Get medical attention if symptoms occur.

#### 4.2. Most important symptoms and effects, both acute and delayed

Direct contact with eyes may cause temporary irritation.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

#### General fire hazards

No unusual fire or explosion hazards noted.

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Powder. Dry sand.

##### 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

This product is not flammable.

#### 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

|                                    |   |
|------------------------------------|---|
| <b>For non-emergency personnel</b> | Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. For personal protection, see section 8 of the PIS. |
| <b>For emergency responders</b>    | Keep unnecessary personnel away.  |

**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** Stop the flow of material, if this is without risk.

**6.4. Reference to other sections** For personal protection, see section 8 of the PIS. For waste disposal, see section 13 of the PIS.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling** Provide adequate ventilation. Avoid prolonged exposure. Wear appropriate personal protective equipment. Avoid release to the environment.

**7.2. Conditions for safe storage, including any incompatibilities** Store locked up.

**7.3. Specific end use(s)** Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

**Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09**

| Components   | Type | Value                 | Form           |
|--|------|-----------------------|----------------|
| COPPER FLAKES (COATED WITH ALIPHATIC ACID) (CAS 7440-50-8) | MAC  | 1 mg/m <sup>3</sup>   |                |
|  | STEL | 0,2 mg/m <sup>3</sup> | Dust and fume. |
|  |      | 2 mg/m <sup>3</sup>   | Dust and fume. |

**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. Eye wash facilities and emergency shower must be available when handling this product.

#### Individual protection measures, such as personal protective equipment

**General information** Wear suitable protective clothing.

**Eye/face protection** Wear approved safety glasses, goggles, face shield and/or welder's helmet when risk of eye injury is present, particularly during operations that generate dust, mist or fume.

#### Skin protection

**- Hand protection** Wear gloves to prevent metal cuts and skin abrasions during handling.

**- Other** Wear necessary protective equipment.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** Not applicable.

**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.

**Environmental exposure controls**

Environmental manager must be informed of all major releases.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

|   |  |
|---|--|
| <b>Appearance</b>                                   | Solid.   |
| <b>Physical state</b>                               | Solid.   |
| <b>Form</b>   | Solid.   |
| <b>Colour</b>                                       | Brass.   |
| <b>Odour</b>  | None.  |
| <b>Odour threshold</b>                              | Not applicable.  |
| <b>pH</b>   | Not applicable.  |
| <b>Melting point/freezing point</b>                 | 485 - 980 °C (905 - 1796 °F) estimated / 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.  |
| <b>Upper/lower flammability or explosive limits</b> |  |
| <b>Flammability limit - lower (%)</b>               | Not applicable.  |
| <b>Flammability limit - lower (%) temperature</b>   | Not applicable.  |
| <b>Flammability limit - upper (%)</b>               | Not applicable.  |
| <b>Flammability limit - upper (%) temperature</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.  |
| <b>Vapour pressure</b>                              | Not applicable.  |
| <b>Vapour 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>Explosive properties</b>                         | Not explosive.   |
| <b>Oxidising properties</b>                         | Not oxidising.   |
| <b>9.2. Other information</b>                       |  |
| <b>Density</b>                                      | 7,20 - 8,30 g/cm <sup>3</sup> estimated                  |
| <b>Flammability</b>                                 | Not applicable.  |
| <b>Specific gravity</b>                             | 7,92 estimated   |

**SECTION 10: Stability and reactivity**

|   |   |
|---|---|
| <b>10.1. Reactivity</b>                         | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| <b>10.2. Chemical stability</b>                 | Material is stable under normal conditions.   |
| <b>10.3. Possibility of hazardous reactions</b> | No dangerous reaction known under conditions of normal use.                                   |

|   |  |
|---|--|
| <b>10.4. Conditions to avoid</b>              | Contact with incompatible materials.           |
| <b>10.5. Incompatible materials</b>           | Acids. Bases.                                  |
| <b>10.6. Hazardous decomposition products</b> | 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

|                     |   |
|---------------------|---|
| <b>Inhalation</b>   | Prolonged inhalation may be harmful.          |
| <b>Skin contact</b> | Not relevant, due to the form of the product. |
| <b>Eye contact</b>  | Not relevant, due to the form of the product. |
| <b>Ingestion</b>    | Not relevant, due to the form of the product. |

**Symptoms** None known.

### 11.1. Information on toxicological effects

|   |  |
|---|--|
| <b>Acute toxicity</b>                                     | None known.  |
| <b>Skin corrosion/irritation</b>                          | Not relevant, due to the form of the product.                                |
| <b>Serious eye damage/eye irritation</b>                  | Not likely, due to the form of the product.                                  |
| <b>Respiratory sensitisation</b>                          | Not a respiratory sensitizer.  |
| <b>Skin sensitisation</b>                                 | Not a skin sensitiser.   |
| <b>Germ cell mutagenicity</b>                             | Due to partial or complete lack of data the classification is not possible.  |
| <b>Carcinogenicity</b>                                    | Not classifiable as to carcinogenicity to humans.                            |
| <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> | Not classified.  |
| <b>Aspiration hazard</b>                                  | Not an aspiration hazard.  |
| <b>Mixture versus substance information</b>               | No information available.  |
| <b>Other information</b>                                  | Not available.   |

## SECTION 12: Ecological information

**12.1. Toxicity** The product is not classified as environmentally hazardous.

| Product  | Species | Test Results                                  |                                 |
|--|---------|---|---------------------------------|
| Copper Gallium Targets                                     |         |   |                                 |
| <b>Aquatic</b>   |         |   |                                 |
| Crustacea  | EC50    | Daphnia                                       | 0,2044 mg/l, 48 hours           |
| Fish   | LC50    | Fish  | 3,0071 mg/l, 96 hours           |
| <i>Acute</i>   |         |   |                                 |
| Fish   | LC50    | Fish  | 0,0382 mg/l, 96 hours estimated |
| Components   | Species | Test Results                                  |                                 |
| COPPER FLAKES (COATED WITH ALIPHATIC ACID) (CAS 7440-50-8) |         |   |                                 |
| <b>Aquatic</b>   |         |   |                                 |
| <i>Acute</i>   |         |   |                                 |
| Crustacea  | EC50    | Blue crab ( <i>Callinectes sapidus</i> )      | 0,0031 mg/l                     |
| Fish   | LC50    | Fathead minnow ( <i>Pimephales promelas</i> ) | 0,0219 - 0,0446 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 Kow)** Not available.

|   |   |
|---|---|
| <b>Bioconcentration factor (BCF)</b>            | Not available.  |
| <b>12.4. Mobility in soil</b>                   | No data available.  |
| <b>12.5. Results of PBT and vPvB assessment</b> | Not a PBT or vPvB substance or mixture.   |
| <b>12.6. 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. |

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

|                                     |   |
|-------------------------------------|---|
| <b>Residual waste</b>               | Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. |
| <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.    |
| <b>EU waste code</b>                | The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.  |
| <b>Disposal methods/information</b> | Collect and reclaim or dispose in sealed containers at licensed waste disposal site.  |
| <b>Special precautions</b>          | Dispose in accordance with all applicable regulations.  |

## SECTION 14: Transport information

### ADR

14.1. - 14.6.: Not regulated as dangerous goods.

### RID

14.1. - 14.6.: Not regulated as dangerous goods.

### ADN

14.1. - 14.6.: Not regulated as dangerous goods.

### IATA

14.1. - 14.6.: Not regulated as dangerous goods.

### IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

## 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 (EU) 2019/1021 On persistent organic pollutants (recast), 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 FLAKES (COATED WITH ALIPHATIC ACID) (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 FLAKES (COATED WITH ALIPHATIC ACID) (CAS 7440-50-8)

**Other regulations**

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.

**National regulations**

Follow national regulation for work with chemical agents. 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.

**15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out.

**SECTION 16: Other information**

**List of abbreviations**

Not available.

**References**

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.

**Training information**

Follow training instructions when handling this material.

**Further information**

Transportation Emergency  
Call Chemtrec at:  
International: 703.741.5970  
Spain: 900.868.538  
Switzerland: 0800.564.402  
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059

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