

## 1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

- 1.1 Identification of the substance or preparation:** **Colorfabb Copperfill**; FDM 3D printing filament  
All information in this SDS is applicable to the filament material, not the filament spool itself.
- 1.2 Use of the substance or preparation:** FDM 3D printing
- 1.3 Company/undertaking identification** Colorfabb B.V.  
Bremweg 7  
NL-5951 DK BELFELD, The Netherlands  
Tel.: +31 77 4664015  
Fax: +31 77 3971414  
E-mail: [sales@colorfabb.com](mailto:sales@colorfabb.com)
- 1.4 Emergency telephone:** Colorfabb B.V.; Tel.: 077 4664015 (only during office hours)

## 2. HAZARDS IDENTIFICATION

- 2.1 Classification** According to Regulation EC 1272/2008 (CLP) the component copper powder is classified; Hazard Statement H400 – very toxic to aquatic life; H412 – Harmful to aquatic life with long lasting effects.

- 2.2 Label elements** Label elements GHS 09



- 2.3 Other hazards** Material processing under extreme conditions above 240°C may result in fumes irritating to the eyes, nose and throat. Furthermore, there is a danger of burns while handling the heated or molten product.

**NOTE** The components of this product are embedded in a polymer matrix and are therefore considered to present a negligible exposure risk under normal conditions of processing and handling during 3D printing.

## 3. COMPOSITION AND INFORMATION ON INGREDIENTS

- 3.1 Description** Biodegradable thermoplastic PLA (polylactic acid) blend, copper powder filled, with proprietary additivation.

### 3.2 Hazardous ingredients

Substance name	CAS number	Concentration	Classification	H-Phrases
Copper powder	---	Approx. 80 w%		H400; H412

### 3.3 Additional information

#### 4. FIRST AID MEASURES

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|-------------------------|--|
| <b>4.1 Skin contact</b> | Areas affected by molten material should be quickly placed under cold running water. Burns caused by molten material require treatment.  |
| <b>4.2 Eye contact</b>  | Unlikely do to physical nature of filament. Material dust or particles can cause mechanical irritation to the eyes. In this case, rinse eyes with plenty of water. If irritation occurs, seek medical attention. |
| <b>4.3 Inhalation</b>   | After inhalation of decomposition products, bring the affected person into fresh air and keep calm. Provide medical aid if needed.   |
| <b>4.4 Ingestion</b>    | Unlikely. Rinse mouth and drink plenty of water. Seek medical attention if difficulties occur.   |

#### 5. FIRE FIGHTING MEASURES

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|--|---|
| <b>5.1 Extinguishing media</b>                                   | Dry extinguishing media, foam, carbon dioxide, water spray or fog   |
| <b>5.2 Extinguishing media not to be used for safety reasons</b> | ---   |
| <b>5.3 Special hazards arising from the mixture</b>              | Carbon dioxide CO <sub>2</sub> , carbon monoxide CO, and hydrocarbon fragments can be released in case of fire. |
| <b>5.4 Protective equipment for fire fighters</b>                | Full protective clothing and self contained breathing apparatus   |

#### 6. ACCIDENTAL RELEASE MEASURES

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|---|---|
| <b>6.1 Personal precautions</b>                       | Avoid inhalation of dust or fumes. Printing should be done in well ventilated area.     |
| <b>6.2 Environmental precautions</b>                  | Prevent material to end up in environment.  |
| <b>6.3 Cleanup, containment and disposal of spill</b> | Avoid generation of dust. Dispose material and residues according to local regulations. |
| <b>6.4 Reference to other sections</b>                |   |

#### 7. HANDLING AND STORAGE

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|--|--|
| <b>7.1 Precautions for safe handling</b> | Handle material as prescribed. Avoid overheating material during printing. Use adequate ventilation. Prevent dust formation. |
| <b>7.2 Conditions for safe storage</b>   | Protect against moisture. Store in dry environment at ambient temperatures.  |
| <b>7.3 Specific use</b>                  | Material is meant to be used on 3D printers only. Keep printing temperatures preferably below 220°C to avoid degradation.    |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

**Occupational exposure limits** Given suitable ventilation while printing, it can be assumed that threshold limits will not be reached. Dust may be generated when sanding or polishing the material after printing.

### 8.2 Exposure controls

**Appropriate Engineering Controls** Use adequate ventilation during printing and polishing

**Individual protection measures**

**Eye protection** Not required for FDM printing; when sanding or polishing this material, wear safety glasses with side shields.

**Hand protection** Not required for FDM printing;

**Skin protection** Not required for FDM printing;

**Respiratory protection** Not required for FDM printing; In case of dust formation during sanding, a particle filter type P1 or FFP1 is recommended

**General safety and hygiene measures** Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when printing this product. Avoid contact of molten material with skin. Avoid inhalation of dust or vapour.

**Environmental exposure controls** Do not allow product to enter drains, water courses or soil.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 General information

**Density** Approx. 4.0 g/cm<sup>3</sup>

**Odor** Almost odorless

### 9.2 Important health, safety and environmental information

**Physical form** Solid, filament wound on a spool

**Melting range** Approx. 150-170°C

**Flash point** not applicable

**Volatiles content** <1 v%

**Thermal decomposition** >240°C

**Solubility in water** Insoluble

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity** No reaction known under normal circumstances

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

**10.3 Possibility of hazardous reactions** None known

**10.4 Conditions to avoid** Avoid moisture absorption, avoid thermal decomposition.

**10.5 Incompatible materials** None known

**10.6 Hazardous decomposition products** Carbon dioxide CO<sub>2</sub>, carbon monoxide CO, hydrocarbon fragments.

## 11. TOXICOLOGICAL INFORMATION

Acute toxicity	Na data available, but not expected
Skin irritation	Not tested (not to be expected)
Eye irritation	Not tested (not to be expected)
Skin sensitisation	Not tested (not to be expected)
Respiratory sensitisation	Not tested (not to be expected)
CMR effects	None of the ingredients is listed as CMR substance
General remarks	

## 12. ECOLOGICAL INFORMATION

12.1 Aquatic toxicity	No data have been generated for this mixture; copper powder does not meet the classification for chronic aquatic toxicity.
12.2 Persistence and degradability	PLA based resin of this compound is biodegradable
12.3 Bioaccumulative potential	No information available
12.4 Mobility in soil	No information available
12.5 Results of PBT and vPvB assessment	Product does not contain PBT or vPvB substances; not applicable.
12.6 Other adverse effects	No adverse effects known to date
12.7 Additional ecotoxicological information	

## 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	Recover or recycle if possible. Dispose according to local regulations.
13.2 Additional information	Do not allow material to enter water course or sewage systems
13.3 Packaging	Dispose of in accordance with local regulations

## 14. TRANSPORT INFORMATION

14.1 RID / ADR	Not listed / free
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14.2 ICAO / IATA-DGR Not listed / free

14.3 GGVSEE / IMDG-CODE Not listed / free

14.4 UN-NR Not listed / free

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations specific for the substance or mixture

Restrictions of use None

Other regulations No information available

15.2 Chemical safety assessment A safety assessment is not required

## 16. OTHER INFORMATIE

Relevant H-phrase: H400 – very toxic for aquatic life  
H412 – harmful to aquatic life with long lasting effects

Changes compared to previous version: n.a.

**Abbreviations**

REACH; Registration, Evaluation, Authorisation and restriction of chemical substances  
EC: European Community  
PBT: Persistent, Bioaccumulating, Toxic  
vPvB: very Persistent, very Bioaccumulating  
ADR; Accord européen relative au transport international des marchandises Dangereuses per Route  
ADN: Accord européen relative au transport international des marchandises Dangereuses per voies de Navigation intérieures  
RID: Regulations for the international Transport of dangerous goods by rail  
IMDG: International maritime dangerous goods code  
ICAO: International civil aviation organization

This safety datasheet complies with the requirements of EC 1907/2006 and regulation EC 2015/830. Label element according to regulation EC 1272/2008.

### Disclaimer

The information provided in the safety datasheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information only relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.