

1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

- 1.1 Identification of the substance or preparation:** **Colorfabb BronzeFill**; 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
- 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 bronze powder is classified; Hazard Statement H400 – very toxic to aquatic life;
- 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, bronze powder filled, with proprietary additivation (PHA)
- 3.2 Hazardous ingredients**

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

3.3 Additional information

4. FIRST AID MEASURES

4.1 Skin contact	Areas affected by molten material should be quickly placed under cold running water. Burns caused by molten material require treatment.
4.2 Eye contact	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.
4.3 Inhalation	After inhalation of decomposition products, bring the affected person into fresh air and keep calm. Provide medical aid if needed.
4.4 Ingestion	Unlikely. Rinse mouth and drink plenty of water. Seek medical attention if difficulties occur.

5. FIRE FIGHTING MEASURES

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

6. ACCIDENTAL RELEASE MEASURES

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

7. HANDLING AND STORAGE

7.1 Precautions for safe handling	Handle material as prescribed. Avoid overheating material during printing. Use adequate ventilation. Prevent dust formation.
7.2 Conditions for safe storage	Protect against moisture. Store in dry environment at ambient temperatures.
7.3 Specific use	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. 3.9 g/cm³

Odor Almost odorless

9.2 Important health, safety and environmental information

Physical form Solid, filament winded 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 CO₂, 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; bronze 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

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.