



1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

- 1.1 Identification of the substance or preparation:** Trade Name: Colorfabb PA-CF Low Warp;
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:** High performance thermoplastic filament for 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** This product is not classified as dangerous according to Regulation (EC) 1272/2008 (CLP)
- 2.2 Label elements**
- | | |
|-------------------------|----------------|
| Health hazards: | Not applicable |
| Environmental hazards | Not applicable |
| Hazard symbol | Not applicable |
| Signal Word | Not applicable |
| Hazard Statement | Not applicable |
| Precautionary statement | Not applicable |
| PBT and vPvB substances | Not applicable |
- 2.3 Other hazards** This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1% or higher

3. COMPOSITION AND INFORMATION ON INGREDIENTS

- 3.1 Description** colorFabb PA-CF is a polyamide based thermoplastic material filled with carbon fiber reinforcement.

3.2 Hazardous ingredients

Substance name	CAS number	Concentration	Classification	H-Phrases
No hazardous ingredients	---	---	---	---

- 3.3 Additional information** None

4. FIRST AID MEASURES

- 4.1 Skin contact** Do not use solvents or thinners. Molten material e.g. during printing, can cause burns. In case of burns cool immediately with plenty of water for at least 10 minutes. Do not remove solidified product. Seek medical attention.
- 4.2 Eye contact** Unlikely during normal use. If material particles get in contact with eyes (e.g. grinding), mechanical irritation might occur. Rinse thoroughly with plenty of water. Keep eyes wide open while rinsing.
- 4.3 Inhalation** Not likely during normal use. Long term overheating or burning of material can generate decomposition products. After inhalation of decomposition products/fumes, move to fresh air. If symptoms persist, call a physician.
- 4.4 Ingestion** Unlikely due to physical form. If symptoms occur, seek medical attention.
- 4.5 Note to physician** Treat symptomatically.

5. FIRE FIGHTING MEASURES

- 5.1 Extinguishing media** Dry chemical extinguishing media, foam, water spray or carbon dioxide
- 5.2 Extinguishing media not to be used for safety reasons** Water jet
- 5.3 Special hazards arising from the mixture** In case of fire or excessive high temperatures, generation and build-up of dangerous/toxic decomposition fumes is possible. Possible hazardous combustion products: carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen cyanide, hydrogen sulphide, metal oxides, ammonia.
- 5.4 Protective equipment for fire fighters** In the event of fire, wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions** None required; use adequate ventilation during printing; avoid dust formation and breathing dust.
- 6.2 Environmental precautions** Prevent material ending up in environment. Do not allow contact with soil, surface or ground water.
- 6.3 Cleanup, containment and disposal of spill** Sweep up or vacuum up spillage and collect in suitable container for disposal
- 6.4 Reference to other sections** For personal protection see Section 8. For disposal considerations see Section 13.

7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling** Provide for appropriate exhaust ventilation at machine. Do not breath vapours/dust. Wear personal protective equipment.
- The material can accumulate static charge and can therefore cause electrical ignition. Take measures to prevent buildup of electrostatic charge.
- Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Wash hands before breaks and immediately after handling the product. Keep away from food and drinks. When using, do not eat, drink, smoke.
- 7.2 Conditions for safe storage** Keep spools in original box and in a cool and well ventilated place. Keep away from heat and sources of ignition. Keep away from direct sunlight.
- 7.3 Specific use** Product is meant to be used for FDM 3D printing only. For further specifics on use, see technical datasheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No	Value type	Control parameters	Basis
Carbon Black	1333-86-4	TWE	3,5 mg/kg	GB EH40
		STEL	7 mg/kg	GB EH40

Derived No Effect Level (DNEL) according Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
Carbon black	Workers	Inhalation		2 mg/m3
Remarks	DNEL (long term rep.)			

8.2 Exposure controls

- Appropriate Engineering Controls** Provide sufficient air exchange and/or exhaust in work rooms. Provide appropriate exhaust ventilation at machinery
- Personal protection measures**
- Eye protection** Not required (for FDM printing)
- Hand protection** Not required (for FDM printing); when handling molten material wear protective gloves to prevent burns.
- Skin protection** Not required (for FDM printing)

Respiratory protection	Not required (for FDM printing);
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product.
Environmental exposure controls	Do not allow product to enter drains, water courses or soil.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 General information

Appearance	Solid, Filament winded onto spool
Colour	Black
Odour	None
pH	Not determined
Melting point	Approx. 235 °C
Boiling point	Not determined
Flash point	>420°C
Flammability	No data available
Upper explosion limits	No data available
Lower explosion limits	The product is not explosive by itself, but it may form explosive dust.
Vapour pressure	Not determined
Relative density	No data available
Density	Not determined
Solubility	Not determined
Ignition temperature	Not determined
Decomposition temperature	>320°C
Viscosity	Not applicable
Conductivity	Not determined

9.2 Important health, safety and environmental information

Softening point	>200 °C
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10. STABILITY AND REACTIVITY

10.1 Reactivity	No decomposition if stored and applied as directed
10.2 Chemical stability	The product is chemical stable
10.3 Possibility of hazardous reactions	Finely dispersed particles form explosive mixtures with air Burning produces noxious and toxic fumes.
10.4 Conditions to avoid	Keep away from heat and sources of ignition. Avoid dust formation Avoid moisture
10.5 Incompatible materials	No data available

10.6 Hazardous decomposition products

Carbon dioxide, carbon monoxide, unburned hydrocarbons (smoke), nitrogen oxides, hydrogen cyanide, styrene, sulphur oxides, metal oxides, ammonia.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity	No data available
Acute inhalation toxicity	No data available
Acute dermal toxicity	No data available
Skin corrosion/irritation	No known irritant effects; dust may cause irritation of respiratory tract
Serious eye damage/eye irritation	Dust may cause mechanical irritation of the eyes
Respiratory or skin sensitisation	No known sensitizing effect
Germ cell mutagenicity	
Genotoxicity in vitro	No data available
Genotoxicity in vivo	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
STOT – single exposure	No data available
STOT – repeated exposure	No data available
Aspiration toxicity	No data available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

- Toxicity to fish No data available
- Toxicity to daphnia and other aquatic invertebrates No data available
- Toxicity to algae No data available
- Toxicity to microorganisms No data available

12.2 Persistence and degradability No data available on biodegradability

12.3 Bioaccumulative potential No data available

12.4 Mobility in soil No data available

12.5 Results of PBT and vPvB assessment This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0,1% or higher.

12.6 Other adverse effects Material should not be released into the environment

12.7 Additional ecotoxicological information ---

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	Dispose of in accordance with European Directives on waste and in accordance with local and national regulations.
13.2 Additional information	n.a.
13.3 Packaging	Dispose of packaging in accordance with local regulations.

14. TRANSPORT INFORMATION

14.1 RID / ADR	Not listed / free
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 / none known

15.2 Chemical safety assessment	A safety assessment is not required / not available
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16. OTHER INFORMATIE

Relevant H-phrase: None

Changes compared to previous version: n.a.

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.