

Safety data sheet

Page: 1/9

BASF 3D Printing Safety data sheet

Date / Revised: 12.07.2023

Product: **Ultrafuse® PLA Tough Black**

Version: 1.0

(1107025/SDS_GEN_SG/EN)

Date of print: 13.07.2023

1. Substance/preparation and manufacturer/supplier identification

Product name:

Ultrafuse® PLA Tough Black

Recommended use: 3D Printing

Manufacturer/supplier:

BASF 3D Printing Solutions B.V.

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7821 AT Emmen, Netherlands

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Singapore Emergency Toll-Free Number:

Telephone: 1800-723-1361

International emergency number:

Telephone: +49 180 2273-112

2. Hazard identification

Classification of the substance and mixture:

No need for classification according to GHS criteria for this product.

Label elements and precautionary statement:

The product does not require a hazard warning label in accordance with GHS criteria.

BASF 3D Printing Safety data sheet
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Other hazards which do not result in classification:
The product may cause burns, if handled in the melted state.

3. Composition/information on ingredients

Chemical nature

Substance nature: mixture

Preparation based on: Polymer, additives

No particular hazards known.

4. First-Aid Measures

General advice:
Remove contaminated clothing.

If inhaled:
Remove the affected individual into fresh air and keep the person calm. If symptoms persist, seek medical advice.

On skin contact:
Wash thoroughly with soap and water. If irritation develops, seek medical attention. Burns caused by molten material require hospital treatment.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open. If irritation develops, seek medical attention.

On ingestion:
Rinse mouth immediately with water. Immediate medical attention required.

Note to physician:
Symptoms: (Further) symptoms and / or effects are not known so far
Hazards: No hazard is expected under intended use and appropriate handling.
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Suitable extinguishing media:
water spray, foam, dry powder, carbon dioxide

Specific hazards:
carbon oxides
The substances/groups of substances mentioned can be released in case of fire.

Special protective equipment:
Wear a self-contained breathing apparatus.

BASF 3D Printing Safety data sheet
Date / Revised: 12.07.2023
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Further information:

Dust can form an explosive mixture with air. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental Release Measures

Personal precautions:

No special precautions necessary.

Environmental precautions:

Discharge into the environment must be avoided.

Methods for cleaning up or taking up:

For small amounts: Sweep/shovel up.

For large amounts: Sweep/shovel up.

Dispose of absorbed material in accordance with regulations. Avoid raising dust.

Additional information: Avoid dispersal of dust in the air (e.g. by clearing dusty surfaces with compressed air). Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

7. Handling and Storage

Handling

Avoid inhalation of dusts/mists/vapours. Ensure adequate ventilation. Provide suitable exhaust ventilation at the drying process and in the area surrounding the melt outlet of processing machines. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Avoid the formation and deposition of dust.

Protection against fire and explosion:

The product is not an oxidizer, not self-combustible and not explosive. Avoid dust formation. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

Storage

Further information on storage conditions: Avoid deposition of dust. Avoid extreme heat.

Storage stability:

Protect against moisture.

8. Exposure controls and personal protection

Components with occupational exposure limits

No substance specific occupational exposure limits known.

Engineering Controls

BASF 3D Printing Safety data sheet

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Advice on system design:

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment.

Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Use only appropriately classified electrical equipment and powered industrial trucks.

Personal protective equipment**Respiratory protection:**

Breathing protection if breathable aerosols/dust are formed. Wear respiratory protection if ventilation is inadequate. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

Hand protection:

Use additional heat protection gloves when handling hot molten masses (EN 407), e.g. of textile or leather.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:

Wear protective clothing to prevent contact during mechanical processing and/or hot melt conditions.

Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. When using, do not eat, drink or smoke.

9. Physical and Chemical Properties

Form:	filament
Colour:	black
Odour:	odourless
Odour threshold:	not applicable, odour not perceivable

pH value:	not determined
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Melting point:	177 °C
Boiling point:	not determined

Flash point:	not determined
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Evaporation rate:	The product is a non-volatile solid.
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Flammability (solid/gas):	not determined
Lower explosion limit:	
	For solids not relevant for classification and labelling.
Upper explosion limit:	
	For solids not relevant for classification and labelling.
Ignition temperature:	
	not determined
Thermal decomposition:	> 230 °C
Self ignition:	not self-igniting
Self heating ability:	It is not a substance capable of spontaneous heating.
Explosion hazard:	not explosive
Fire promoting properties:	not fire-propagating
Vapour pressure:	
	The product is a non-volatile solid.
Density:	1.22 g/cm ³ (20 °C, 1,013 hPa)
Bulk density:	
	not determined
Relative vapour density (air):	
	The product is a non-volatile solid.
Solubility in water:	not determined
Partitioning coefficient n-octanol/water (log Pow):	
	not determined
Viscosity, dynamic:	
	not applicable, the product is a solid
Viscosity, kinematic:	
	not applicable, the product is a solid

10. Stability and Reactivity

Conditions to avoid:
Temperature: > 230 °C
Avoid all sources of ignition: heat, sparks, open flame.

Thermal decomposition: > 230 °C

Substances to avoid:
oxidizing agents, strong bases

Corrosion to metals: No corrosive effect on metal.

Hazardous reactions:

Accumulation of fine dust may entail the risk of a dust explosion in the presence of air.

Possible thermal decomposition products:

aldehydes, carbon oxides, toxic gases/vapours

Chemical stability:

The product is stable if stored and handled as prescribed/indicated.

Reactivity:

No hazardous reactions if stored and handled as prescribed/indicated.

11. Toxicological Information

Routes of exposure

Acute oral toxicity

Experimental/calculated data:

LD50rat (oral): > 5,000 mg/kg

Acute inhalation toxicity

(by inhalation): The inhalation of dusts represents a potential acute hazard.

Acute dermal toxicity

LD50 rabbit (dermal): > 2,000 mg/kg

Assessment of acute toxicity

Virtually nontoxic after a single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact. Contact with molten product may cause thermal burns.

Symptoms

(Further) symptoms and / or effects are not known so far

Irritation

Assessment of irritating effects:

Not irritating to eyes and skin. May cause mechanical irritation.

Respiratory/Skin sensitization

Assessment of sensitization:

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Assessment of mutagenicity:

Based on available data, the classification criteria are not met.

Carcinogenicity

Assessment of carcinogenicity:

Based on available data, the classification criteria are not met.

Reproductive toxicity

Assessment of reproduction toxicity:

Based on available data, the classification criteria are not met.

Developmental toxicity

Assessment of teratogenicity:

Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Based on available data, the classification criteria are not met.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Based on available data, the classification criteria are not met.

Aspiration hazard

not applicable

12. Ecological Information

Ecotoxicity

Assessment of aquatic toxicity:

Based on available data, the classification criteria are not met. At the present state of knowledge, no negative ecological effects are expected.

Mobility

Assessment transport between environmental compartments:

Adsorption to solid soil phase is expected.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

No data available concerning biodegradation and elimination.

Bioaccumulation potential

Assessment bioaccumulation potential:

The product has not been tested.

Additional information

BASF 3D Printing Safety data sheet

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Add. remarks environm. fate & pathway:

Due to the consistency of the product, dispersion into the environment is impossible. Therefore no negative effects on the environment may be anticipated based on the present state of knowledge.

13. Disposal Considerations

Dispose of in accordance with national, state and local regulations.

Contact specialized companies about recycling.

Contaminated packaging:

Dispose of in accordance with national, state and local regulations.

Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

14. Transport Information

Domestic transport:

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
	Marine pollutant: no
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
Proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

15. Regulatory Information

Other regulations

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

Any other intended applications should be discussed with the manufacturer.

Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.