

Safety data sheet

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BASF 3D Printing Safety data sheet according to UN GHS 4th rev.

Date / Revised: 21.12.2022

Version: 2.1

Product: **Ultrafuse® TPU 85A polyurethane filament**

(ID no. 11120904/SDS_GEN_00/EN)

Date of print 10.01.2023

1. Identification

Product identifier

Ultrafuse® TPU 85A polyurethane filament

Recommended use: 3D Printing

Details of the supplier of the safety data sheet

Company:

BASF 3D Printing Solutions B.V.
Eerste Bokslotweg 17
7821 AT Emmen, Netherlands

Telephone: + 31 591 820 389
E-mail address: sales@basf-3dps.com

Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

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

Label elements

Globally Harmonized System (GHS)

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

Other hazards

According to UN GHS criteria

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition/Information on Ingredients

Substances

Not applicable

Mixtures

Chemical nature

Polymer based on: polyurethane, stabilizing agents, additives

Hazardous ingredients (GHS)

According to UN GHS criteria

Does not contain any hazardous ingredients.

4. First-Aid Measures

Description of first aid measures

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.

Most important symptoms and effects, both acute and delayed

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

Hazards: No hazard is expected under intended use and appropriate handling.

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Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

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

Special hazards arising from the substance or mixture

carbon oxides

The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

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

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

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.

Personal precautions, protective equipment and emergency procedures

No special precautions necessary.

Environmental precautions

Discharge into the environment must be avoided.

Methods and material for containment and cleaning up

For small amounts: Sweep/shovel up.

For large amounts: Sweep/shovel up.

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

7. Handling and Storage

Precautions for safe 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:

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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.

Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Frost sensitive sensitive to heat Avoid deposition of dust.

Storage stability:

Protect against moisture.

Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

No substance specific occupational exposure limits known.

Exposure controls

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:

Chemical resistant protective gloves (EN ISO 374-1)

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

Information on basic physical and chemical properties

Form: filament

Colour: white, translucent

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| | |
|---|---|
| Odour: | odourless |
| Odour threshold: | not applicable, odour not perceivable |
| pH value: | not applicable, substance/mixture is non-soluble (in water) |
| Melting point: | > 150 °C |
| Boiling point: | not applicable |
| Flash point: | not applicable, the product is a solid |
| Evaporation rate: | The product is a non-volatile solid. |
| Flammability: | Not a flammable solid according to UN transport regulations division 4.1 and GHS chapter 2.7. |
| 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 applicable |
| Vapour pressure: | not determined |
| Density: | approx. 1,1 - 1,2 g/cm ³ (20 °C) |
| Relative density: | No data available. |
| Relative vapour density (air): | The product is a non-volatile solid. |
| Solubility in water: | insoluble |
| Partitioning coefficient n-octanol/water (log Kow): | not applicable for mixtures |
| Self ignition: | not self-igniting |
| Thermal decomposition: | No decomposition if stored and handled as prescribed/indicated. Prolonged thermal loading can result in products of degradation being given off. |
| Explosion hazard: | not explosive |
| Fire promoting properties: | not fire-propagating |

Other information

Self heating ability: It is not a substance capable of spontaneous heating.

10. Stability and Reactivity

Reactivity

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

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Corrosion to metals: No corrosive effect on metal.

Chemical stability

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

Possibility of hazardous reactions

No hazardous reactions when stored and handled according to instructions.

Conditions to avoid

Temperature: > 300 °C

Prolonged exposure to elevated temperatures may result in exothermic decomposition accompanied by a pressure build-up in sealed containers. Avoid all sources of ignition: heat, sparks, open flame.

Incompatible materials

Substances to avoid:

oxidizing agents

Hazardous decomposition products

Hazardous decomposition products:

Gaseous products of degradation can be given off if the product is greatly overheated.

Possible thermal decomposition products:

Carbon monoxide, Carbon dioxide, Hydrogen cyanide
isocyanates, nitrogen oxides

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation. Virtually nontoxic after a single ingestion.

Experimental/calculated data:

(oral): No applicable information available.

Irritation

Assessment of irritating effects:

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

Respiratory/Skin sensitization

Assessment of sensitization:

The chemical structure does not suggest a sensitizing effect.

Germ cell mutagenicity

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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)

Assessment of STOT single:

| 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:

Repeated dermal uptake of the substance did not cause substance-related effects. Repeated inhalative uptake of the substance did not cause substance-related effects. Repeated oral uptake of the substance did not cause substance-related effects.

Aspiration hazard

| not applicable

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

No data available concerning biodegradation and elimination.

Bioaccumulative potential

Assessment bioaccumulation potential:

The product has not been tested.

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Mobility in soil

Assessment transport between environmental compartments:
Adsorption in soil: Adsorption to solid soil phase is expected.

Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria.

Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

Additional information

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

Waste treatment methods

Observe national and local legal requirements.

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

Land transport

ADR

| | |
|------------------------------|--|
| | 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 |

RID

Not classified as a dangerous good under transport regulations

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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

Inland waterway transport

ADN

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

Transport in inland waterway vessel

Not evaluated

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
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
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

Maritime transport in bulk according to IMO instruments

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Maritime transport in bulk is not intended.

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

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

If it is intended to use materials for the manufacture of consumer goods (e. g. products which will come into contact with foodstuffs or with the skin, toys) or medical products, national and international regulations have to be observed. Where no regulations exist, consumer goods or medical products must at least comply with European legislation. We recommend contacting our Sales and our Product Safety departments.

16. Other Information

Any other intended applications should be discussed with the manufacturer.

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.

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