

Safety data sheet

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

Date / Revised: 08.11.2018

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

Version: 2.0

(ID no. 11120904/SDS_GEN_00/EN)

Date of print 19.03.2021

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, UN (GHS)

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

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Other hazards

According to UN GHS criteria

| No specific dangers known, if the regulations/notes for storage and handling are considered.

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. Immediate medical attention required.

On skin contact:

| Burns caused by molten material require hospital treatment.

On contact with eyes:

| In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. If irritation develops, seek medical attention.

On ingestion:

| Immediately rinse mouth and then drink plenty of water, do not induce vomiting, seek medical attention.

Most important symptoms and effects, both acute and delayed

| Symptoms: No significant reaction of the human body to the product known.

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| Hazards: No hazards anticipated.

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

Unsuitable extinguishing media for safety reasons:

| water jet

Special hazards arising from the substance or mixture

| Carbon dioxide, carbon monoxide, hydrogen cyanide, nitrogen oxides, isocyanate
| 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:

| Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental Release Measures

| High risk of slipping due to leakage/spillage of product.

Personal precautions, protective equipment and emergency procedures

| No special precautions necessary.

Environmental precautions

| No special precautions necessary.

Methods and material for containment and cleaning up

| For small amounts: Sweep/shovel up.

| For large amounts: Sweep/shovel up.

7. Handling and Storage

Precautions for safe handling

| Provide suitable exhaust ventilation at the drying process and in the area surrounding the melt outlet of processing machines.

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Protection against fire and explosion:

| No special precautions necessary.

Conditions for safe storage, including any incompatibilities

| Segregate from foods and animal feeds.

| Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), Paper/Fibreboard

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

| The substances mentioned are contained only in traces in the product.

| 101-68-8: 4,4'-methylenediphenyl diisocyanate

Exposure controls

Personal protective equipment

Respiratory protection:

| Breathing protection if breathable aerosols/dust are formed.

Hand protection:

Chemical resistant protective gloves (EN 374)

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

| Wearing of closed work clothing is recommended. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	filament
Colour:	transparent to opaque
Odour:	odourless
Odour threshold:	not applicable
pH value:	not applicable
softening temperature:	> 120 °C
boiling temperature:	The product is a non-volatile solid.
Flash point:	not applicable
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.
Flammability:	not flammable (Directive 92/69/EEC, A.10)
Lower explosion limit:	For solids not relevant for classification and labelling.
Upper explosion limit:	For solids not relevant for classification and labelling.
Ignition temperature:	> 400 °C
Vapour pressure:	not applicable
Relative density:	No data available.
Relative vapour density (air):	not applicable
Solubility in water:	insoluble
Partitioning coefficient n-octanol/water (log Kow):	not applicable
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated. > 230 °C Thermal decomposition above the indicated temperature is possible. Prolonged thermal loading can result in products of degradation being given off.
Viscosity, dynamic:	not applicable
Explosion hazard:	not explosive
Fire promoting properties:	not fire-propagating

Other information

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

Bulk density: 500 - 700 kg/m³
(20 °C)

Other Information:

If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity

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

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

No conditions to avoid anticipated.

Incompatible materials

Substances to avoid:

No substances known that should be avoided.

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:

LD50 rat (oral): > 5.000 mg/kg

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Irritation

Assessment of irritating effects:

Not irritating to the eyes. Not irritating to the skin. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Respiratory/Skin sensitization

Assessment of sensitization:

The chemical structure does not suggest a sensitizing effect.

Germ cell mutagenicity

Assessment of mutagenicity:

The chemical structure does not suggest a specific alert for such an effect.

Carcinogenicity

Assessment of carcinogenicity:

The chemical structure does not suggest a specific alert for such an effect.

Reproductive toxicity

Assessment of reproduction toxicity:

The chemical structure does not suggest a specific alert for such an effect.

Developmental toxicity

Assessment of teratogenicity:

The chemical structure does not suggest a specific alert for such an effect.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

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

Assessment of repeated dose toxicity:

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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

No aspiration hazard expected.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Poorly biodegradable.

Elimination information:

Poorly biodegradable.

Bioaccumulative potential

Assessment bioaccumulation potential:

Does not significantly accumulate in organisms.

Mobility in soil

Assessment transport between environmental compartments:

Adsorption in soil: Due to the product characteristics the test is impossible.

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

Adsorbable organically-bound halogen (AOX):

This product contains no organically-bound halogen.

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13. Disposal Considerations

Waste treatment methods

Observe national and local legal requirements.

Waste key:

| 07 02 13 waste plastic

Contaminated packaging:

| Completely emptied packagings can be given for recycling.

14. Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN 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
UN 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:	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

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user:

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN 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:	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 bulk according to Annex II of MARPOL and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

15. Regulatory Information

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

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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. Corresponding occupational protection measurements must be followed.

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.