

Safety data sheet

Page: 1/10

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

Date / Revised: 21.12.2022

Version: 2.1

Product: **Ultrafuse PA polyamide filament**

(ID no. 11120902/SDS_GEN_00/EN)

Date of print 09.01.2023

1. Identification

Product identifier

Ultrafuse PA polyamide filament

Chemical name: Ultrafuse® PA

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)

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 21.12.2022

Version: 2.1

Product: **Ultrafuse PA polyamide filament**

(ID no. 11120902/SDS_GEN_00/EN)

Date of print 09.01.2023

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

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

Chemical nature

| Preparation based on: Polymer, additives

Mixtures

Not applicable

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.

Indication of any immediate medical attention and special treatment needed

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 21.12.2022

Version: 2.1

Product: **Ultrafuse PA polyamide filament**

(ID no. 11120902/SDS_GEN_00/EN)

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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

At temperatures of > 300 °C can be emitted: Carbon monoxide, Hydrogen cyanide

Under special fire conditions traces of other toxic substances are possible. Formation of further decomposition and oxidation products depends upon the fire conditions.

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

Avoid all sources of ignition: heat, sparks, open flame.

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:

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 21.12.2022

Version: 2.1

Product: **Ultrafuse PA polyamide filament**

(ID no. 11120902/SDS_GEN_00/EN)

Date of print 09.01.2023

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

Suitable materials for containers: Stainless steel 1.4301 (V2), Stainless steel 1.4401, High density polyethylene (HDPE), Low density polyethylene (LDPE), Paper/Fibreboard

Further information on storage conditions: Avoid deposition of dust. Avoid extreme heat. Sensitive to freezing temperatures

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:

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.

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 21.12.2022

Version: 2.1

Product: **Ultrafuse PA polyamide filament**

(ID no. 11120902/SDS_GEN_00/EN)

Date of print 09.01.2023

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	filament	
Colour:	white, translucent	
Odour:	odourless	
Odour threshold:	not applicable, odour not perceivable	
pH value:	not applicable, substance/mixture is non-soluble (in water)	
Melting temperature:	approx. 191 - 197 °C	
onset of boiling:	not applicable	
Sublimation point:	No applicable information available.	
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:	> 400 °C	(ASTM D1929)
Vapour pressure:	not applicable	
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	
Self ignition:	not self-igniting	
Thermal decomposition:	> 300 °C No decomposition if stored and handled as prescribed/indicated. Prolonged thermal loading can result in products of degradation being given off.	
Viscosity, dynamic:	not applicable, the product is a solid	
Viscosity, kinematic:	not applicable, the product is a solid	
Explosion hazard:	not explosive	
Fire promoting properties:	not fire-propagating	

Other information

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 21.12.2022

Version: 2.1

Product: **Ultrafuse PA polyamide filament**

(ID no. 11120902/SDS_GEN_00/EN)

Date of print 09.01.2023

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

SADT: Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.

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

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:

| Prolonged thermal loading can result in products of degradation being given off., monomers, gases/vapours, oxides, hydrocarbons, cyclic low molecular weight oligomers

11. Toxicological Information

Information on toxicological effects

Acute toxicity

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.

Experimental/calculated data:

(oral):No applicable information available.

(by inhalation):No applicable information available.

(dermal):No applicable information available.

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 21.12.2022

Version: 2.1

Product: **Ultrafuse PA polyamide filament**

(ID no. 11120902/SDS_GEN_00/EN)

Date of print 09.01.2023

Irritation

Assessment of irritating effects:

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

Serious eye damage/irritation: 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)

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:

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

Aspiration hazard

| not applicable

Other relevant toxicity information

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 21.12.2022

Version: 2.1

Product: **Ultrafuse PA polyamide filament**

(ID no. 11120902/SDS_GEN_00/EN)

Date of print 09.01.2023

12. Ecological Information

Toxicity

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.

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.

Bioaccumulation potential:

The product will not be readily bioavailable due to its consistency and insolubility in water.

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

Dispose of in accordance with national, state and local regulations.
Contact specialized companies about recycling.

Contaminated packaging:

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 21.12.2022

Version: 2.1

Product: **Ultrafuse PA polyamide filament**

(ID no. 11120902/SDS_GEN_00/EN)

Date of print 09.01.2023

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

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

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 21.12.2022

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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

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.

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.

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