

Safety data sheet

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

Date / Revised: 11.07.2022

Version: 2.0

Product: **Ultrafuse Support Layer**

(ID no. 11154042/SDS_GEN_00/EN)

Date of print 18.07.2022

1. Identification

Product identifier

Ultrafuse Support Layer

Recommended use: 3D Printing

Details of the supplier of the safety data sheet

Company:

BASF 3D Printing Solutions B.V.
Eerste Bokslottweg 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

Aquatic Chronic 3

For the classifications not written out in full in this section the full text can be found in section 16.

Label elements

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Globally Harmonized System (GHS)

Hazard Statement:

H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P273 Avoid release to the environment.

Precautionary Statements (Disposal):

P501 Dispose of contents and container to hazardous or special waste collection point.

Other hazardsAccording 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.

Upon mechanical treatment like e.g. cutting, grinding and/or polishing the product can release hazardous substances.

Upon thermal and/or chemical treatment the product can release hazardous substances.

Fine dust produced by abrasion can form explosive mixtures with air.

3. Composition/Information on Ingredients**Substances**

Not applicable

MixturesChemical nature

polymer blend based on: metal oxides
encapsulated, in a polymer matrix

Hazardous ingredients (GHS)

According to UN GHS criteria

| Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate]

Content (W/W): $\geq 0,2\%$ - $< 0,3\%$ Aquatic Chronic 1

CAS Number: 36443-68-2 M-factor chronic: 10

EC-Number: 253-039-2 H410

| Formaldehyde

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Content (W/W): > 0 % - < 0,1 %	Flam. Liq. 4
CAS Number: 50-00-0	Acute Tox. 2 (Inhalation - vapour)
EC-Number: 200-001-8	Acute Tox. 3 (oral)
INDEX-Number: 605-001-00-5	Acute Tox. 3 (dermal)
	Skin Corr./Irrit. 1B
	Eye Dam./Irrit. 1
	Skin Sens. 1A
	Carc. 1B
	Aquatic Acute 2
	H227, H330, H317, H350, H314, H301 + H311, H401
	<u>Specific concentration limit:</u>
	Skin Corr./Irrit. 1B: ≥ 25 %
	Skin Sens. 1: $\geq 0,2$ %
	Skin Corr./Irrit. 2: 5 - < 25 %
	STOT SE 3, irr. to respiratory syst.: ≥ 5 %
	Eye Dam./Irrit. 2: 5 - < 25 %

For the classifications not written out in full in this section the full text can be found in section 16.

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 and then drink 200-300 ml of water. Seek medical attention.

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

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

Additional information:

Water spray for suppression (heat dissipation) of incipient fires as long as the product has not yet ignited.

Special hazards arising from the substance or mixture

Formaldehyde, 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:

The degree of risk is governed by the burning substance and the fire conditions. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental Release Measures

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

Handle in accordance with good industrial hygiene and safety practice.

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. Provide good ventilation of working area (local exhaust ventilation if necessary). 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.

Further information is given in the user guidelines for the product.

Protection against fire and explosion:

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The product is not an oxidizer, not self-combustible and not explosive. Avoid dust formation.
Accumulation of fine dust may entail the risk of a dust explosion in the presence of air.

Conditions for safe storage, including any incompatibilities

Segregate from acids.

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

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

Storage stability:

Protect against moisture.

The packed product is not damaged by low temperatures or by frost.

Protect from temperatures above: 160 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

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.

Please refer to the technical leaflet for further information.

8. Exposure Controls/Personal Protection**Control parameters**Components with occupational exposure limits

50-00-0: Formaldehyde

1344-28-1: Aluminium oxide

Exposure controlsPersonal 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:

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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. Ensure adequate ventilation. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	filament
Colour:	white
Odour:	odourless
Odour threshold:	not applicable, odour not perceivable
pH value:	not applicable, substance/mixture is non-soluble (in water)
Melting point:	163 °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 highly flammable
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
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:	> 200 °C Thermal decomposition above the indicated temperature is possible.
Viscosity, kinematic:	not applicable, the product is a solid
Explosion hazard:	Product is not explosive, however a dust explosion could result from an air / dust mixture.
Fire promoting properties:	not fire-propagating

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Other information

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

Radioactivity:

not radioactive for transport purposes
(DIN EN ISO 60)

Bulk density: 570 kg/m³
Hygroscopy: Non-hygroscopic

10. Stability and Reactivity**Reactivity**

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

Corrosion to metals: No corrosive effect on metal.

Reactions with water/air: Reaction with: air

Flammable gases: no

Toxic gases: no

Corrosive gases: no

Smoke or fog: no

Peroxides: no

Reaction with: water

Flammable gases: no

Toxic gases: no

Corrosive gases: no

Smoke or fog: no

Peroxides: no

Formation of flammable gases: Remarks: Forms no flammable gases in the presence of water.

Chemical stability

The product is stable if stored and handled as prescribed/indicated. depolymerizes at elevated temperatures

Possibility of hazardous reactions

Strong exothermic reaction with acids. May decompose violently.

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

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid prolonged exposure to extreme heat.
Avoid dust formation.

Incompatible materials

Substances to avoid:

oxidizing agents, inorganic acids, plastics containing halogenated flame retardants

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Hazardous decomposition products

Possible thermal decomposition products:

Formaldehyde, Carbon monoxide

At prolonged and/or strong thermal stressing above the decomposition temperature dangerous decomposition products can be formed.

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.

Irritation

Assessment of irritating effects:

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)

Remarks: 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:

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

Aspiration hazard

not applicable

Other relevant toxicity information

The product has not been tested. The statement has been derived from the properties of the individual components.

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

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate]

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

The product is not very soluble in water and can thus be removed from water mechanically in suitable effluent treatment plants.

Bioaccumulative potential

Assessment bioaccumulation potential:

The product has not been tested.

Bioaccumulation potential:

The product has not been tested. Because of the product's consistency and low water solubility, bioavailability is improbable.

Mobility in soil

Assessment transport between environmental compartments:

Adsorption in soil: Adsorption to solid soil phase is possible.

Other adverse effects

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The product does not contain substances that are listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

Additional information

Add. remarks environm. fate & pathway:

The product has not been tested. The statements on environmental fate and pathway have been derived from the properties of the individual components.

Other ecotoxicological advice:

The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

13. Disposal Considerations

Waste treatment methods

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

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

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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

Maritime transport in bulk is not intended.

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.

16. Other Information

Any other intended applications should be discussed with the manufacturer.

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Aquatic Chronic	Hazardous to the aquatic environment - chronic
Flam. Liq.	Flammable liquids
Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Sens.	Skin sensitization
Carc.	Carcinogenicity
Aquatic Acute	Hazardous to the aquatic environment - acute
STOT SE	Specific target organ toxicity — single exposure
H410	Very toxic to aquatic life with long lasting effects.
H227	Combustible liquid.
H330	Fatal if inhaled.
H317	May cause an allergic skin reaction.
H350	May cause cancer.
H314	Causes severe skin burns and eye damage.
H301 + H311	Toxic if swallowed or in contact with skin
H401	Toxic to aquatic life.

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.