

Safety Data Sheet

Ultrafuse Support Layer

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Version: 2.0

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(11154042/SDS_GEN_CA/EN)

1. Identification

Product identifier used on the label

Ultrafuse Support Layer

Recommended use of the chemical and restriction on use

Recommended use*: 3D Printing

Unsuitable for use: Uses other than recommended

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

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

Contact address:

BASF Canada Inc.
5025 Creekbank Road
Building A, Floor 2
Mississauga, ON, L4W 0B6, CANADA
Telephone: +1 289 360-1300

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Chemical family: Polymer

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

Aquatic Chronic

3

Hazardous to the aquatic environment - chronic

Label elements

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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/container in accordance with local regulations.

Hazards not otherwise classified

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.

Labeling of special preparations (GHS):

This product is capable of releasing formaldehyde into the air. May cause cancer. This product is not combustible in the form in which it is shipped by the manufacturer, but may form a combustible dust through downstream activities (e.g. grinding, pulverizing) that reduce its particle size. UNDER HOT MELT PROCESSING CONDITIONS, WEAR PERSONAL PROTECTIVE EQUIPMENT TO PREVENT THERMAL BURNS.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Aluminum oxide

CAS Number: 1344-28-1

Content (W/W): ≥ 20.0 - $< 50.0\%$

Synonym: Aluminium oxide; Alumina

Polyethylene wax

CAS Number: 9002-88-4

Content (W/W): ≥ 5.0 - $< 10.0\%$

Synonym: Poly(ethylene)

ethylene bis(oxyethylene)bis(3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate)

CAS Number: 36443-68-2

Content (W/W): ≥ 0.2 - $< 0.3\%$

Synonym: Benzenepropanoic acid, 3-(1,1-dimethylethyl)-4-hydroxy-5-methyl-, [1,2-ethanediylbis(oxy)]bis(2,1-ethanediyl) ester

Formaldehyde

CAS Number: 50-00-0

Content (W/W): ≥ 50.0 - $< 100.0\text{PPM}$

Synonym: Formaldehyde; Formalin

4. First-Aid Measures

Description of first aid measures

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General advice:

Remove contaminated clothing.

If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. If symptoms persist, seek medical advice.

If on skin:

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

If in eyes:

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

If swallowed:

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

Most important symptoms and effects, both acute and delayed

Information on: Aluminum oxide

Symptoms: No data available.

Information on: Polyethylene wax

Symptoms: No data available.

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

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote.
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5. Fire-Fighting Measures

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

Hazards during fire-fighting:

Formaldehyde, carbon oxides

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

Advice for fire-fighters

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Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Dusty conditions may ignite explosively in the presence of an ignition source causing flash fire.

6. Accidental release measures

Further 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

Wear suitable personal protective clothing and equipment. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Dispose of in compliance with the environmental protection requirements.

Methods and material for containment and cleaning up

For small amounts: Sweep/shovel up.

For large amounts: Sweep/shovel up. Vacuum up spilled product.

Reclaim for processing if possible. Ensure adequate ventilation. Avoid raising dust. Nonsparking tools should be used. After decontamination, spill area can be washed with water.

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:

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. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids (2013 Edition) for safe handling.

Conditions for safe storage, including any incompatibilities

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

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

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.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

Aluminum oxide	ACGIH, US:	TWA value 1 mg/m3 Respirable fraction ;
	OSHA Z1:	PEL 5 mg/m3 Respirable fraction ;
	OSHA Z1:	PEL 15 mg/m3 Total dust ;
	ACGIH, US:	TWA value 10 mg/m3 Inhalable particles ;
	ACGIH, US:	TWA value 3 mg/m3 Respirable particles ;
Polyethylene wax	OSHA Z1:	PEL 5 mg/m3 Respirable fraction ;
	OSHA Z1:	PEL 15 mg/m3 Total dust ;

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:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator.

Hand protection:

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

Eye protection:

Safety glasses with side-shields. Wear splash goggles to protect from hot molten substance/product.

Body protection:

Standard work clothes and shoes.

General safety and hygiene measures:

Avoid inhalation of dust. Wear protective clothing to prevent contact during mechanical processing and/or hot melt conditions. Wash soiled clothing immediately.

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9. Physical and Chemical Properties

Form:	filament	
Odour:	odourless	
Odour threshold:	not applicable, odour not perceivable	
Colour:	white	
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	
Flammability:	not highly flammable Product is combustible.	
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Autoignition:	not applicable	
Vapour pressure:	not determined	
Bulk density:	570 kg/m ³	(DIN EN ISO 60)
Vapour density:	The product is a non-volatile solid.	
Partitioning coefficient n-octanol/water (log Pow):	not applicable for mixtures	
Self-ignition temperature:	not self-igniting	
Thermal decomposition:	> 200 °C Thermal decomposition above the indicated temperature is possible.	
Viscosity, kinematic:	not applicable, the product is a solid	
Solubility in water:	insoluble	
Evaporation rate:	The product is a non-volatile solid.	

10. Stability and Reactivity

Reactivity

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

Corrosion to metals:

No corrosive effect on metal.

Oxidizing properties:

not fire-propagating

Reactions with water/air:	Reaction with:	air
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Flammable gases:	no
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Toxic gases:	no
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Corrosive gases:	no
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Smoke or fog:	no
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Peroxides:	no
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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.
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Chemical stability

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

Possibility of hazardous reactions

The product is stable if stored and handled as prescribed/indicated.
Strong exothermic reaction with acids. May decompose violently.

Conditions to avoid

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

Incompatible materials

oxidizing agents, inorganic acids, plastics containing halogenated flame retardants

Hazardous decomposition products

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.

Thermal decomposition:

> 200 °C

Thermal decomposition above the indicated temperature is possible.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Inhalation of particulates may cause respiratory tract irritation. Ingestion may cause gastrointestinal disturbances. Contact with molten product may cause thermal burns. The resin in pelleted form poses a low hazard.

Assessment other acute effects

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

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Irritation / corrosion

Assessment of irritating effects: May cause mechanical irritation.

Sensitization

Assessment of sensitization: Based on available data, the classification criteria are not met.

Aspiration Hazard

not applicable

Chronic Toxicity/Effects

Repeated dose toxicity

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

Genetic toxicity

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.

Teratogenicity

Assessment of teratogenicity: Based on available data, the classification criteria are not met.

Other 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

Aquatic 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.

Aquatic toxicity

Information on: ethylene bis(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. Very toxic to aquatic life with long lasting effects.

Persistence and degradability

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

The product has not been tested.

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

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.

Not classified as a dangerous good under transport regulations

Chemical	DSL, CA	released / listed
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NFPA Hazard codes:

Health: 1

Fire: 1

Reactivity: 0

Special:

16. Other Information

SDS Prepared by:

BASF 3D Printing NA Product Regulations

SDS Prepared on: 2022/10/07

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

Any other intended applications should be discussed with the manufacturer.

END OF DATA SHEET