

Safety Data Sheet

Ultrafuse® ASA Natural

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Version: 3.0

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(11146757/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

Ultrafuse® ASA Natural

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 CORPORATION
100 Park Avenue
Florham Park, NJ 07932
USA
Telephone: +1 973 245-6000

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Chemical family: Polymer

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Repr. 2 (fertility) Reproductive toxicity

Label elements

Pictogram:

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Signal Word:
Warning

Hazard Statement:
H361 Suspected of damaging fertility.

Precautionary Statements (Prevention):
P280 Wear protective gloves, protective clothing and eye protection or face protection.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

Precautionary Statements (Response):
P308 + P313 IF exposed or concerned: Get medical attention.

Precautionary Statements (Storage):
P405 Store locked up.

Precautionary Statements (Disposal):
P501 Dispose of contents/container in accordance with local regulations.

Hazards not otherwise classified

The product may cause burns, if handled in the melted state.

Labeling of special preparations (GHS):

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 Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Benzotriazole derivative

CAS Number: Trade Secret
Content (W/W): > 0.0 - < 1.0%
Synonym: No data available.

bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate

CAS Number: 52829-07-9
Content (W/W): > 0.0 - < 1.0%
Synonym: Decanedioic acid bis(2,2,6,6-tetramethyl-4-piperidiny) ester;
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate

Styrene

CAS Number: 100-42-5
Content (W/W): >= 0.0 - < 0.1%

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Synonym: Vinylbenzene; Styrene, Ethenylbenzene

acrylonitrile

CAS Number: 107-13-1

Content (W/W): ≥ 0.0 - $< 0.1\%$

Synonym: 2-Propenenitrile; Acrylonitrile, Cyanoethylene

n-butyl acrylate

CAS Number: 141-32-2

Content (W/W): ≥ 0.0 - $< 0.1\%$

Synonym: 2-Propenoic acid butyl ester; Butyl acrylate

Paraffin wax

CAS Number: 8002-74-2

Content (W/W): ≥ 0.0 - $< 0.1\%$

Synonym: Paraffin wax; Paraffin waxes and Hydrocarbon waxes

ethylbenzene

CAS Number: 100-41-4

Content (W/W): ≥ 0.0 - $< 0.1\%$

Synonym: Ethylbenzene

4. First-Aid Measures

Description of first aid measures

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 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

Information on: Benzotriazole derivative

Symptoms: Overexposure may cause: allergic contact dermatitis, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps

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Information on: bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate

Symptoms: Overexposure may cause: corneal injury, skin corrosion, severe pain, coughing, respiratory disorders, dyspnea, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps

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.

5. Fire-Fighting Measures

Extinguishing media

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

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
Vapors/fumes may contain traces of combustible substances.

Advice for fire-fighters

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 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

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

Environmental precautions

Do not allow to enter soil, waterways or waste water channels.

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.

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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:

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

Segregate from oxidizing agents.

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

Storage stability:

Protect against moisture.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

The substances mentioned are contained only in traces in the product. The release and quantity of the stated substance is dependent on the processing conditions.

Styrene	OSHA Z2:	TWA value 100 ppm ;
	OSHA Z2:	max. conc. 600 ppm ;
	OSHA Z2:	CLV 200 ppm ;
	ACGIH, US:	STEL value 20 ppm ;
	ACGIH, US:	TWA value 10 ppm ;
acrylonitrile	ACGIH, US:	TWA value 2 ppm ;
	OSHA, US:	STEL value 10 ppm ;
	OSHA, US:	TWA value 2 ppm ;
	OSHA, US:	OSHA Action level 1 ppm ;
	ACGIH, US:	Skin Designation ; Danger of cutaneous absorption
	ACGIH, US:	Skin Designation ; Danger of cutaneous absorption
n-butyl acrylate	ACGIH, US:	TWA value 2 ppm ;

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Paraffin wax	ACGIH, US:	TWA value 2 mg/m3 fumes/smoke ;
ethylbenzene	ACGIH, US:	TWA value 20 ppm ;
	OSHA Z1:	PEL 100 ppm 435 mg/m3 ;

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:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

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.

9. Physical and Chemical Properties

Form:	filament
Odour:	odourless
Odour threshold:	not applicable, odour not perceivable
Colour:	colourless to white
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
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.
Autoignition:	not applicable
Vapour pressure:	not determined

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Density:	1.07 g/cm ³ (20 °C)
Relative density:	1.07 (20 °C)
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:	> 300 °C No decomposition if stored and handled as prescribed/indicated. Thermal decomposition above the indicated temperature is possible. Prolonged thermal loading can result in products of degradation being given off.
Solubility in water:	insoluble
Evaporation rate:	The product is a non-volatile solid.

10. Stability and Reactivity

Reactivity

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
Not an oxidizer.

Chemical stability

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

Possibility of hazardous reactions

The product is chemically stable.
No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

Temperature: > 300 degrees Celsius
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

oxidizing agents

Hazardous decomposition products

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

Thermal decomposition:
> 300 °C
No decomposition if stored and handled as prescribed/indicated. Thermal decomposition above the indicated temperature is possible. Prolonged thermal loading can result in products of degradation being given off.

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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.

Oral

No applicable information available.

Inhalation

The inhalation of dusts represents a potential acute hazard.

Dermal

No applicable information available.

Assessment other acute effects

Assessment of STOT single:

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

Irritation / corrosion

Assessment of irritating effects: Not irritating to eyes and skin. 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 available data, the classification criteria are not met.

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: Possible risk of impaired fertility.

Information on: bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate

Assessment of reproduction toxicity: The results of animal studies suggest a fertility impairing effect.

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Teratogenicity

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

Other Information

The product has been assessed on the basis of the components' available data. To some extent data gaps exist for individual components. According to our present knowledge and experience dangers which are not covered by the current labeling are not to be expected.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

At the present state of knowledge, no negative ecological effects are expected.

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

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.

Mobility in soil

Assessment transport between environmental compartments

Adsorption to solid soil phase is expected.

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.

Other ecotoxicological advice:

The product has been assessed on the basis of the components' available data. To some extent data gaps exist for individual components. According to our present knowledge and experience dangers which are not covered by the current labeling are not to be expected.

13. Disposal considerations

Waste disposal of substance:

This product is not regulated by RCRA. This product is not regulated by CERCLA ('Superfund'). Incinerate in a licensed facility. Do not discharge substance/product into sewer system. Dispose of in accordance with national, state and local regulations.

Container disposal:

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.

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14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

State regulations

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
NJ	100-41-4	ethylbenzene
	100-42-5	Styrene
	107-13-1	acrylonitrile
PA	107-13-1	acrylonitrile

Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

WARNING: This product can expose you to chemicals including ETHYLBENZENE, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.

NFPA Hazard codes:

Health: 1 Fire: 0 Reactivity: 0 Special:

16. Other Information

SDS Prepared by:

BASF 3D Printing NA Product Regulations
SDS Prepared on: 2024/01/02

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

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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.

Ultrafuse® ASA Natural Any other intended applications should be discussed with the manufacturer.

END OF DATA SHEET