

Safety Data Sheet

Ultrafuse® BVOH polyvinyl alcohol filament

Revision date : 2020/12/09

Version: 4.0

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(11120948/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

Ultrafuse® BVOH polyvinyl alcohol filament

Recommended use of the chemical and restriction on use

Recommended use*: 3D Printing; for industrial use only

* 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, additives

2. Hazards Identification

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

Classification of the product

No need for classification according to GHS criteria for this product.

Label elements

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

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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

Under the referenced regulation, this product does not contain any components classified for health hazards above the relevant cut off value.

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 Burns caused by molten material require hospital treatment. If irritation develops, seek medical attention.

If in 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.

If swallowed:

Keep patient calm, remove to fresh air. 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: Methanol

Symptoms: Overexposure may cause:, headache, dizziness, respiratory disorders, nausea, acidosis, coma, blindness

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

Information on: Methanol

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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:
dry powder, foam, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

Additional information:
Water jet can rapidly spread fire.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
harmful vapours, carbon oxides
Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire. Under certain conditions in case of fire other hazardous combustion products may be generated.

Advice for fire-fighters

Protective equipment for fire-fighting:
Wear a self-contained breathing apparatus.

Further information:

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

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

6. Accidental release measures

Further accidental release measures:

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

Further accidental release measures:

Avoid dispersal of dust in the air (i.e., clearing dust 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.

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Methods and material for containment and cleaning up

For large amounts: Vacuum up spilled product.

Spills should be contained and placed in suitable containers for disposal. Nonsparking tools should be used. Reclaim for processing if possible. Ensure adequate ventilation. Avoid raising dust. After decontamination, spill area can be washed with water.

For small amounts: Sweep/shovel up.

For large amounts: Sweep/shovel up. Pack in tightly closed containers for disposal.

Dispose of contaminated material as waste according to item 13.

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: Containers should be stored tightly sealed in a dry place. Do not store in steel or stainless steel containers; polyethylene is the preferred material.

Storage stability:

Avoid extreme heat.

Avoid freezing.

Frost sensitive

The packed product will be damaged by high temperatures.

8. Exposure Controls/Personal Protection

No occupational exposure limits known.

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.

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Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Suitable respiratory protection for higher concentrations or long-term effect:

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:

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

Form:	filament
Odour:	vinegar-like
Odour threshold:	not determined
Colour:	white to light yellow
pH value:	5 - 7
melting range:	150 - 300 °C
Boiling point:	The product is a non-volatile solid.
Sublimation point:	No applicable information available.
Flash point:	> 200 °C (closed cup)
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.
Autoignition:	440 °C
SADT:	Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.
Vapour pressure:	No data available.
Relative density:	Study does not need to be conducted.
Bulk density:	approx. 1,140 kg/m ³
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.
Viscosity, dynamic:	not applicable, the product is a solid
Viscosity, kinematic:	No applicable information available.
Solubility in water:	completely soluble
Solubility (quantitative):	No applicable information available.

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Solubility (qualitative):	soluble solvent(s): N,N-dimethylformamide, dimethyl sulfoxide
Molar mass:	No applicable information available.
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

Chemical stability

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

Possibility of hazardous reactions

The product is stable 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: monomers, gases/vapours, oxides, hydrocarbons, cyclic low molecular weight oligomers, Gaseous products of degradation can be given off if the product is greatly overheated.

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.

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: Virtually nontoxic after a single ingestion. The product has not been tested. The statement has been derived from the properties of the individual components.

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Oral

No applicable information available. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: Methanol

Type of value: LD50

Species: rat

Value: > 1187 - 2769 mg/kg (BASF-Test)

Inhalation

No applicable information available. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: Methanol

Type of value: LC50

Species: rat (male/female)

Value: 128 mg/l (BASF-Test)

Exposure time: 4 h

The vapour was tested.

Dermal

No applicable information available. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: Methanol

Type of value: LD50

Species: rabbit

Value: 17100 mg/kg (other)

Assessment other acute effects

No applicable information available.

Irritation / corrosion

Assessment of irritating effects: May cause slight irritation to the eyes. The product has not been tested. The statement has been derived from the properties of the individual components.

Skin

May cause mechanical irritation.

Eye

May cause slight irritation to the eyes.

Sensitization

Assessment of sensitization: No applicable information available.

Aspiration Hazard

No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: No applicable information available.

Information on: Methanol

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*Assessment of repeated dose toxicity: The substance may cause blindness after repeated ingestion.
The substance may cause blindness after repeated inhalation.*

Genetic toxicity

Assessment of mutagenicity: No applicable information available.

Carcinogenicity

Assessment of carcinogenicity: No applicable information available.

Reproductive toxicity

Assessment of reproduction toxicity: No applicable information available.

Information on: Methanol

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: No applicable information available.

Information on: Methanol

Assessment of teratogenicity: Indications of possible developmental toxicity/teratogenicity were seen in animal studies.

Other Information

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

12. Ecological Information

Toxicity

Aquatic 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)

Product is not expected to be readily biodegradable.

Bioaccumulative potential

Assessment bioaccumulation potential

The product has not been tested.

Mobility in soil

Assessment transport between environmental compartments

Study technically not feasible.

Due to the product characteristics the test is impossible.

Additional information

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Adsorbable organically-bound halogen (AOX):
This product contains no organically-bound halogen.

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.

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.

CERCLA RQ

100 LBS

CAS Number

79-20-9

Chemical name

methyl acetate

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

WARNING: This product can expose you to chemicals including METHANOL, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

NFPA Hazard codes:

Health: 1 Fire: 1 Reactivity: 0 Special:

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16. Other Information

SDS Prepared by:

BASF 3D Printing NA Product Regulations

SDS Prepared on: 2020/12/09

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.

Ultrafuse® BVOH polyvinyl alcohol filament Any other intended applications should be discussed with the manufacturer.

Corresponding occupational protection measurements must be followed.

END OF DATA SHEET