Safety data sheet

1. Identification

Product identifier

Ultrafuse® BVOH polyvinyl alcohol filament

Recommended use: 3D Printing, for industrial use only

Details of the supplier of the safety data sheet

Company:
BASF 3D Printing Solutions B.V.
Eerste Bokslootweg 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)

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

Other hazards

According to UN GHS criteria

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

3. Composition/Information on Ingredients

Substances

Not applicable

Mixtures

Chemical nature

polymer blend based on: alcohols

Hazardous ingredients (GHS)
According to UN GHS criteria

No particular hazards known.

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. Assist in breathing if necessary. If symptoms persist, seek medical advice.

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

On contact with 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.

On ingestion:
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

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:
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

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

Special protective equipment:
Wear a self-contained breathing apparatus.

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

6. Accidental Release Measures

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

Personal precautions, protective equipment and emergency procedures

No special precautions necessary.

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. 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:
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

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

Control parameters

Components with occupational exposure limits

No occupational exposure limits known.

Exposure controls

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Suitable respiratory protection for higher concentrations or long-term effect: (Particle filter EN 143 P1)

Hand protection:
Chemical resistant protective gloves (EN 374)

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
Wearing of closed work clothing is recommended. 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

Information on basic physical and chemical properties

Form:	filament
Colour:	white to light yellow
Odour:	vinegar-like
Odour threshold:	not determined
pH value:	5 - 7
melting range:	150 - 300 °C
Boiling point:	The product is a non-volatile solid.
Flash point:	> 200 °C (closed cup)
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:	440 °C
Vapour pressure:	No data available.
Relative density:	Study does not need to be conducted.
Relative vapour density (air):	The product is a non-volatile solid.
Solubility in water:	completely soluble
Solubility (qualitative) solvent(s):	N,N-Dimethylformamide, Dimethyl sulfoxide soluble
Partitioning coefficient n-octanol/water (log Kow):	not applicable for mixtures
Self ignition:	not self-igniting
Thermal decomposition:	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
Explosion hazard:	not explosive

Fire promoting properties: not fire-propagating

Other information

Bulk density: approx. 1.140 kg/m3

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

Conditions to avoid
Avoid dust formation. Avoid deposition of dust.

Incompatible materials

Substances to avoid:
oxidizing agents

Hazardous decomposition products

Thermal decomposition products:
Prolonged thermal loading can result in products of degradation being given off.

11. Toxicological Information

Information on toxicological 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.

Irritation

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.

Experimental/calculated data:
Skin corrosion/irritation: May cause mechanical irritation.

Serious eye damage/irritation: May cause slight irritation to the eyes.

Respiratory/Skin sensitization

Assessment of sensitization:
No applicable information available.

Germ cell mutagenicity

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.

Developmental toxicity

Assessment of teratogenicity:
No applicable information available.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
No applicable information available.

Aspiration hazard

No aspiration hazard expected.

Other relevant toxicity information

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

12. Ecological Information

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:
Volatility: Study technically not feasible.
Adsorption in soil: Due to the product characteristics the test is impossible.

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

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

13. Disposal Considerations

Waste treatment methods

Dispose of in accordance with national, state and local regulations.

Contaminated packaging:
Completely emptied packagings can be given for recycling.

14. Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN 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:	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:	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:	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:	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 bulk according to Annex II of MARPOL and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Not applicable

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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