# Safety data sheet



BASF 3D Printing Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.
Date / Revised: 24.03.2020 Version: 1.0
Date previous version: not applicable Previous version: none
Product: **Ultrafuse® PLA Grau**
(ID no. 11120842/SDS_GEN_EU/EN)
Date of print 19.03.2021

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

# Ultrafuse® PLA Grau

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use: 3D Printing, for industrial use only

### 1.3. 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 SE
67056 Ludwigshafen
GERMANY

Telephone: +49 621 60-0
E-mail address: global.info@basf.com

### 1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

## SECTION 2: Hazards Identification

### 2.1. Classification of the substance or mixture

For the classification of the mixture the following methods have been applied: extrapolation on the concentration levels of the hazardous substances, on basis of test results and after evaluation of experts. The methodologies used are mentioned at the respective test results.

According to Regulation (EC) No 1272/2008 [CLP]

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

### 2.2. Label elements

Globally Harmonized System, EU (GHS)

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

### 2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

No specific dangers known, if the regulations/notes for storage and handling are considered.

## SECTION 3: Composition/Information on Ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Chemical nature

Polymer

Hazardous ingredients (GHS)
according to Regulation (EC) No. 1272/2008

No particular hazards known.

## SECTION 4: First-Aid Measures

### 4.1. 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.

### 4.2. 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.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

## SECTION 5: Fire-Fighting Measures

### 5.1. Extinguishing media

Suitable extinguishing media:
water spray, foam, dry powder

### 5.2. Special hazards arising from the substance or mixture

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

### 5.3. 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.

## SECTION 6: 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.

### 6.1. Personal precautions, protective equipment and emergency procedures

No special precautions necessary.

### 6.2. Environmental precautions
Do not discharge into drains/surface waters/groundwater.

### 6.3. 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.

### 6.4. Reference to other sections
Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

## SECTION 7: Handling and Storage

### 7.1. 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.

### 7.2. Conditions for safe storage, including any incompatibilities

Suitable materials for containers: Low density polyethylene (LDPE), High density polyethylene (HDPE), Polypropylene (PP), Polystyrene (PS)
Further information on storage conditions: Avoid deposition of dust.

Storage stability:
Protect against moisture.

## SECTION 8: Exposure Controls/Personal Protection

### 8.1. Control parameters

### 8.2. Exposure controls

Personal 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:
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
Wear protective clothing to prevent contact during mechanical processing and/or hot melt conditions. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift.

## SECTION 9: Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| Form: | filament |
| Colour: | grey |
| Odour: | odourless |
| Odour threshold: | not applicable |
| pH value: | not applicable |
| melting range: | 150 - 180 °C |
| Boiling point: | not applicable |
| Flash point: | not applicable |
| Evaporation rate: | The product is a non-volatile solid. |
| Flammability: | not 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 applicable
Density: 1.25 g/cm3
(25 °C)
Relative vapour density (air):
not applicable
Solubility in water: insoluble
Partitioning coefficient n-octanol/water (log Kow):
not applicable
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
Viscosity, kinematic:
not applicable, the product is a solid
Explosion hazard: not explosive
Fire promoting properties: not fire-propagating

### 9.2. Other information

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

Bulk density:
dropped
Other Information:
If necessary, information on other physical and chemical parameters is indicated in this section.

## SECTION 10: Stability and Reactivity

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

Corrosion to metals: No corrosive effect on metal.

### 10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

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

### 10.4. Conditions to avoid

Temperature: > 300 °C
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.

### 10.5. Incompatible materials

Substances to avoid:
oxidizing agents

### 10.6. Hazardous decomposition products

Hazardous decomposition products:
monomers, gases/vapours, oxides, hydrocarbons

## SECTION 11: Toxicological Information

### 11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Contact with molten product may cause thermal burns.

Experimental/calculated data:
(oral):No applicable information available.

(by inhalation):The inhalation of dusts represents a potential acute hazard.

(dermal):No applicable information available.

Irritation

Assessment of irritating effects:
May cause slight irritation to the skin. May cause slight irritation to the eyes.

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

Serious eye damage/irritation: May cause mechanical irritation.

Respiratory/Skin sensitization

Assessment of sensitization:
The chemical structure does not suggest a sensitizing effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Germ cell mutagenicity

Assessment of mutagenicity:
The chemical structure does not suggest a specific alert for such an effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Carcinogenicity

Assessment of carcinogenicity:
The chemical structure does not suggest a specific alert for such an effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity

Assessment of reproduction toxicity:
The chemical structure does not suggest a specific alert for such an effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Developmental toxicity

Assessment of teratogenicity:
The chemical structure does not suggest a specific alert for such an effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
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:
Repeated exposure to the substance by dermal administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by inhalative administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by oral administration leads to effects similar to those found after single exposure. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aspiration hazard

No aspiration hazard expected.

Other relevant toxicity information

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

## SECTION 12: Ecological Information

### 12.1. Toxicity

Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.

### 12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Experience shows this product to be inert and non-degradable.

### 12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.

Bioaccumulation potential:
Accumulation in organisms is not to be expected.

### 12.4. Mobility in soil

Assessment transport between environmental compartments:
Adsorption in soil: Study scientifically not justified.

### 12.5. Results of PBT and vPvB assessment

The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

### 12.6. Other adverse effects

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

### 12.7. 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.

## SECTION 13: Disposal Considerations

### 13.1. Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.

A waste code in accordance with the European waste catalog (EWC) cannot be specified, due to dependence on the usage.
The waste code in accordance with the European waste catalog (EWC) must be specified in cooperation with disposal agency/manufacturer/authorities.

Contaminated packaging:
Packs that cannot be cleaned should be disposed of in the same manner as the contents.
Uncontaminated packaging can be re-used.

## SECTION 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 |

### 14.1. UN number
See corresponding entries for “UN number” for the respective regulations in the tables above.

### 14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

### 14.3. Transport hazard class(es)

See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

### 14.4. Packing group

See corresponding entries for “Packing group” for the respective regulations in the tables above.

### 14.5. Environmental hazards

See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

### 14.6. Special precautions for user

See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

### 14.7. 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 |

## SECTION 15: Regulatory Information

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

### 15.2. Chemical Safety Assessment

Product is not classified as hazardous.

Chemical Safety Assessment not required

## SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

Any other intended applications should be discussed with the manufacturer. Corresponding occupational protection measurements must be followed.

Abbreviations

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

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.