

Safety data sheet

Page: 1/14

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 04.08.2020

Product: **Ultracur3D® ST 45 B**

Version: 2.0

(ID no. 11109253/SDS_GEN_00/EN)

Date of print 09.09.2021

1. Identification

Product identifier

Ultracur3D® ST 45 B

Details of the supplier of the safety data sheet

Company:

BASF 3D Printing Solutions GmbH
Speyerer Str. 4
69115 Heidelberg, Germany

Telephone: +49 6221 67417 900

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

Acute Tox. 4 (oral)
Skin Corr./Irrit. 2
Eye Dam./Irrit. 1
Skin Sens. 1B
STOT RE 2 (oral)
Aquatic Acute 2
Aquatic Chronic 3

For the classifications not written out in full in this section the full text can be found in section 16.

Label elementsGlobally Harmonized System (GHS)

Pictogram:



Signal Word:

Danger

Hazard Statement:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated oral exposure.
H412	Harmful to aquatic life with long lasting effects.
H401	Toxic to aquatic life.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P260	Do not breathe dust/gas/mist/vapours.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or physician.
P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P330	Rinse mouth
P362 + P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.
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Other hazardsAccording to UN GHS criteria

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

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 04.08.2020

Version: 2.0

Product: **Ultracur3D® ST 45 B**

(ID no. 11109253/SDS_GEN_00/EN)

Date of print 09.09.2021

3. Composition/Information on Ingredients

Substances

Not applicable

Mixtures

Chemical nature

Preparation based on: urethane, acrylates, Polymer

Hazardous ingredients (GHS)

According to UN GHS criteria

| 2-Propen-1-one, 1-(4-morpholinyl)-

Content (W/W): $\geq 50\%$ - $< 75\%$	Acute Tox. 4 (oral)
CAS Number: 5117-12-4	Acute Tox. 5 (dermal)
EC-Number: 418-140-1	Eye Dam./Irrit. 1
INDEX-Number: 613-222-00-3	Skin Sens. 1
	STOT RE 2
	H318, H313, H302, H317, H373

Polymeric urethane acrylate

Content (W/W): $\geq 25\%$ - $< 50\%$	Skin Corr./Irrit. 2
CAS Number: 52404-33-8	Eye Dam./Irrit. 2A
	H319, H315

(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate

Content (W/W): $\geq 5\%$ - $< 7\%$	Skin Corr./Irrit. 2
CAS Number: 42594-17-2	Eye Dam./Irrit. 2A
EC-Number: 255-901-3	Skin Sens. 1B
INDEX-Number: 607-133-00-9	STOT SE 3 (irr. to respiratory syst.)
	Aquatic Acute 2
	Aquatic Chronic 2
	H319, H315, H317, H335, H401, H411
	<u>Specific concentration limit:</u>
	STOT SE 3, irr. to respiratory syst.: $\geq 10\%$

Hydroxycyclohexyl phenyl ketone

 BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 04.08.2020

Version: 2.0

Product: **Ultracur3D® ST 45 B**

(ID no. 11109253/SDS_GEN_00/EN)

Date of print 09.09.2021

Content (W/W): >= 1 % - < 3 %	Acute Tox. 5 (oral)
CAS Number: 947-19-3	Aquatic Acute 3
EC-Number: 213-426-9	H303, H402

4-(1,1-Dimethylethyl)cyclohexyl acrylate

Content (W/W): >= 1 % - < 3 %	Flam. Liq. 4
CAS Number: 84100-23-2	Acute Tox. 5 (oral)
EC-Number: 282-104-8	Skin Corr./Irrit. 3
INDEX-Number: 607-133-00-9	Skin Sens. 1A
	Aquatic Acute 1
	Aquatic Chronic 2
	M-factor acute: 1
	H227, H316, H303, H317, H411, H400

Specific concentration limit:

STOT SE 3, irr. to respiratory syst.: >= 10 %

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Content (W/W): >= 1 % - < 3 %	Skin Sens. 1B
CAS Number: 75980-60-8	Repr. 2 (fertility)
EC-Number: 278-355-8	Repr. 2 (unborn child)
	Aquatic Acute 2
	Aquatic Chronic 2
	H317, H361, H401, H411

For the classifications not written out in full in this section the full text can be found in section 16.

4. First-Aid Measures

Description of first aid measures

Immediately remove contaminated clothing.

If inhaled:

If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:

Wash thoroughly with soap and water

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Rinse mouth and then drink 200-300 ml of water. Do not induce vomiting unless told to by a poison control center or doctor.

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 04.08.2020

Product: **Ultracur3D® ST 45 B**

Version: 2.0

(ID no. 11109253/SDS_GEN_00/EN)

Date of print 09.09.2021

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

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:
water spray, dry powder, foam

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

harmful vapours

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

Advice for fire-fighters

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

Further information:

The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Breathing protection required.

Environmental precautions

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For large amounts: Pump off product.

For residues: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations.

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 04.08.2020

Version: 2.0

Product: **Ultracur3D® ST 45 B**

(ID no. 11109253/SDS_GEN_00/EN)

Date of print 09.09.2021

7. Handling and Storage

Precautions for safe handling

No special measures necessary provided product is used correctly.

Protection against fire and explosion:

Heated containers should be cooled to prevent polymerization. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Protect against heat. Protect from the effects of light. The stabilizer is only effective in the presence of oxygen. Handle and open container with care. Close container tightly after use.

Protect from temperatures below: 0 °C

Protect from temperatures above: 40 °C

Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

No occupational exposure limits known.

Exposure controls

Personal protective equipment

Respiratory protection:

Suitable respiratory protection for higher concentrations or long-term effect: Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Chemical resistant protective gloves (EN 374)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

nitrile rubber (NBR) - 0.4 mm coating thickness

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

 BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 04.08.2020

Version: 2.0

Product: **Ultracur3D® ST 45 B**

(ID no. 11109253/SDS_GEN_00/EN)

Date of print 09.09.2021

 Tightly fitting safety goggles (cage goggles) (e.g. EN 166) and face shield.
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

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment.

9. Physical and Chemical Properties**Information on basic physical and chemical properties**

Form:	liquid	
Colour:	black	
Odour:	acrylic-like	
Odour threshold:	No data available.	
pH value:	7	
Freezing point:	not determined	
boiling temperature:	> 100 °C (1.013 hPa)	
Flash point:	> 100 °C	
Evaporation rate:	not determined	
Flammability:		(derived from flash point)
Lower explosion limit:	not determined	
	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:		(DIN 51649-1)
	not determined	
	For liquids not relevant for classification and labelling.	
Ignition temperature:	not determined	
Vapour pressure:	not determined	
Density:	not determined 1,09 g/cm ³ (55 °C)	

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 04.08.2020

Version: 2.0

Product: **Ultracur3D® ST 45 B**

(ID no. 11109253/SDS_GEN_00/EN)

Date of print 09.09.2021

Relative density: 1,12 g/cm³
(20 °C)

Relative vapour density (air): No data available.

Solubility in water: sparingly soluble

Solubility (qualitative) solvent(s): organic solvents
soluble

Partitioning coefficient n-octanol/water (log Kow): not applicable for mixtures

Self ignition: not self-igniting

Thermal decomposition: 195 °C, 300 - < 400 kJ/kg

Viscosity, dynamic: approx. 300 mPa.s
(20 °C)
100 mPa.s
(50 °C)

Explosion hazard: not explosive

Fire promoting properties: not fire-propagating

Other information

Surface tension:

No data available.

Grain size distribution: The substance / product is marketed or used in a non solid or granular form.

10. Stability and Reactivity

Reactivity

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

Chemical stability

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

Possibility of hazardous reactions

The product can polymerize if the shelf life or storage temperature are greatly exceeded. Heat develops during polymerization. Reacts with peroxides and other radical components.

The product is stabilized against spontaneous polymerization prior to despatch.

Conditions to avoid

See SDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:
free radical initiators

Hazardous decomposition products

Hazardous decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

| Of moderate toxicity after single ingestion.

Irritation

Assessment of irritating effects:

| Skin contact causes irritation. May cause severe damage to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: Irritant. (BASF-Test)

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

Serious eye damage/irritation rabbit: irreversible damage (BASF-Test)

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

Respiratory/Skin sensitization

Assessment of sensitization:

| Sensitization after skin contact possible.

Experimental/calculated data:

Guinea pig maximization test guinea pig: skin sensitizing (OECD Guideline 406)

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

Germ cell mutagenicity

Assessment of mutagenicity:

Based on the ingredients, there is no suspicion of a mutagenic effect.

Carcinogenicity

Assessment of carcinogenicity:

The whole of the information assessable provides no indication of a carcinogenic effect.

Reproductive toxicity

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 04.08.2020

Version: 2.0

Product: **Ultracur3D® ST 45 B**

(ID no. 11109253/SDS_GEN_00/EN)

Date of print 09.09.2021

Assessment of reproduction toxicity:

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

Information on: Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Assessment of reproduction toxicity:

The results of animal studies suggest a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:

Based on the ingredients, there is no suspicion of a teratogenic effect.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

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

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

Assessment of repeated dose toxicity:

Repeated oral exposure may affect certain organs.

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:

Acutely harmful for 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.

Toxicity to fish:

LC50 (96 h) > 1,27 mg/l, *Leuciscus idus* (OECD 203; ISO 7346; 84/449/EEC, C.1, semistatic)

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 04.08.2020

Version: 2.0

Product: **Ultracur3D® ST 45 B**

(ID no. 11109253/SDS_GEN_00/EN)

Date of print 09.09.2021

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

Aquatic invertebrates:

No data available.

Aquatic plants:

No observed effect concentration (72 h) 10 - 100 mg/l (growth rate), *Scenedesmus subspicatus* (Guideline 92/69/EEC, C.3, static)

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

Microorganisms/Effect on activated sludge:

The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Chronic toxicity to fish:

No data available regarding toxicity to fish.

Chronic toxicity to aquatic invertebrates:

No data available regarding toxicity to daphnids.

Assessment of terrestrial toxicity:

No data available concerning terrestrial toxicity.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Poorly biodegradable.

Bioaccumulative potential

Assessment bioaccumulation potential:

The product has not been tested.

Mobility in soil

Assessment transport between environmental compartments:

Volatility: No data available.

Other adverse effects

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

Additional information

Add. remarks environm. fate & pathway:

Treatment in biological waste water treatment plants has to be performed according to local and administrative regulations.

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 04.08.2020

Version: 2.0

Product: **Ultracur3D® ST 45 B**

(ID no. 11109253/SDS_GEN_00/EN)

Date of print 09.09.2021

Other ecotoxicological advice:
Acutely harmful for aquatic organisms.

13. Disposal Considerations

Waste treatment methods

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

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

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

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 04.08.2020

Version: 2.0

Product: **Ultracur3D® ST 45 B**

(ID no. 11109253/SDS_GEN_00/EN)

Date of print 09.09.2021

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.

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Sens.	Skin sensitization
STOT RE	Specific target organ toxicity — repeated exposure
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
STOT SE	Specific target organ toxicity — single exposure
Flam. Liq.	Flammable liquids
Repr.	Reproductive toxicity
H318	Causes serious eye damage.
H313	May be harmful in contact with skin.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H303	May be harmful if swallowed.
H402	Harmful to aquatic life.
H227	Combustible liquid.
H316	Causes mild skin irritation.
H400	Very toxic to aquatic life.
H361	Suspected of damaging fertility. Suspected of damaging the unborn child.

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.

Vertical lines in the left hand margin indicate an amendment from the previous version.