



Bilby 3D

MATERIAL DATA SAFETY SHEET

Issued in Australia by Bilby 3D Pty Ltd.

The attached Material Data Safety Sheet has been prepared by the manufacturer outside Australia.

In accordance with Australia WHS regulations the following Australian contact details apply

Section 1: AUSTRALIAN COMPANY DETAILS

In Australia the product is imported and distributed by:
Bilby 3D Pty Ltd

Mailing Address :

Kingsgrove Business Centre, 7/192 Kingsgrove Rd, Kingsgrove NSW 2208

Head Office Address :

Kingsgrove Business Centre, 7/192 Kingsgrove Rd, Kingsgrove NSW 2208

Contact Phone: 1800 847 333

Section 2: AUSTRALIAN EMERGENCY CONTACT

Emergency Contact

In the event of an emergency please contact:

Poisons Information Centre 24 hour Telephone Advice Line on 13 11 26

Section 3: AUSTRALIAN ISSUE DATA

Date of Issue : 1 March 2020

Safety data sheet

Page: 1/11

BASF 3D Printing Safety data sheet

Date / Revised: 25.09.2020

Product: **Ultracur3D® ST45 M Photo-curable Resin**

Version: 1.0

(30770319/SDS_GEN_AU/EN)

Date of print 21.01.2021

1. Substance/preparation and manufacturer/supplier identification

Ultracur3D® ST45 M Photo-curable Resin

Recommended use: photoinitiator

Manufacturer/supplier:

BASF 3D Printing Solutions GmbH

Speyerer Str. 4

69115 Heidelberg, Germany

Contact address:

BASF Australia Limited (ABN 62 008 437 867)

Level 12, 28 Freshwater Place Southbank

Victoria 3006

AUSTRALIA

Telephone: +61 3 8855-6600

Telefax number: +61 3 8855-6511

Emergency information:

BASF Emergency Advice Number: 1800 803 440 (24h) [within Australia]

BASF Emergency Advice Number: + 61 3 8855 6666 [outside Australia]

2. Hazard identification

Classification of the substance and mixture:

Acute toxicity: Cat. 4 (oral)

Skin corrosion/irritation: Cat. 2

Serious eye damage/eye irritation: Cat. 1

Skin sensitization: Cat. 1

Specific target organ toxicity — repeated exposure: Cat. 2

Hazardous to the aquatic environment - acute: Cat. 2

Hazardous to the aquatic environment - chronic: Cat. 3

BASF 3D Printing Safety data sheet

Date / Revised: 25.09.2020

Version: 1.0

Product: **Ultracur3D® ST45 M Photo-curable Resin**

(30770319/SDS_GEN_AU/EN)

Date of print 21.01.2021

Label elements and precautionary statement:

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 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.
------	---

Other hazards which do not result in classification:

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

The following percentage of the mixture consists of component(s) with unknown hazards regarding the acute toxicity: 100 %, dermal

3. Composition/information on ingredients

Chemical nature

photopolymer

Hazardous ingredients

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

Content (W/W): $\geq 0.3\%$ - $< 1\%$

CAS Number: 75980-60-8

Skin Sens.: Cat. 1B

Repr.: Cat. 2 (fertility)

Repr.: Cat. 2 (unborn child)

Aquatic Acute: Cat. 2

Aquatic Chronic: Cat. 2

4-(1,1-dimethylethyl)cyclohexyl acrylate

Content (W/W): $\geq 1\%$ - $< 3\%$

CAS Number: 84100-23-2

Flam. Liq.: Cat. 4

Acute Tox.: Cat. 5 (oral)

Skin Corr./Irrit.: Cat. 3

Skin Sens.: Cat. 1A

Aquatic Acute: Cat. 1

Aquatic Chronic: Cat. 2

M-factor acute: 1

2-Propenoic acid, 1,1'-[(octahydro-4,7-methano-1H-indene-5,?-diyl)bis(methylene)] ester

Content (W/W): $\geq 3\%$ - $< 5\%$

CAS Number: 42594-17-2

Skin Corr./Irrit.: Cat. 2

Eye Dam./Irrit.: Cat. 2A

Skin Sens.: Cat. 1B

STOT SE: Cat. 3 (irr. to respiratory syst.)

Aquatic Acute: Cat. 2

Aquatic Chronic: Cat. 2

Polymeric urethane acrylate

Content (W/W): $\geq 25\%$ - $< 50\%$

CAS Number: 52404-33-8

Skin Corr./Irrit.: Cat. 2

Eye Dam./Irrit.: Cat. 2A

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

Content (W/W): $\geq 50\%$ - $< 75\%$

CAS Number: 5117-12-4

Acute Tox.: Cat. 4 (oral)

Acute Tox.: Cat. 5 (dermal)

Eye Dam./Irrit.: Cat. 1

Skin Sens.: Cat. 1

STOT RE: Cat. 2

4. First-Aid Measures

General advice:

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.

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

5. Fire-Fighting Measures

Suitable extinguishing media:
water spray, dry powder, foam

Unsuitable extinguishing media for safety reasons:
water jet

Specific hazards:
harmful vapours
Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

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:
Use personal protective clothing. Breathing protection required.

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

Methods for cleaning up or taking up:
For large amounts: Pump off product.
For residues: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

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.

Storage

Suitable materials for containers: High density polyethylene (HDPE)

Further information on storage conditions: Protect against heat. Protect from the effects of light. The stabilizer is only effective in the presence of oxygen.

Protect from temperatures above: 40 °C

8. Exposure controls and personal protection

Components with occupational exposure limits

No occupational exposure limits known.

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

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:

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

BASF 3D Printing Safety data sheet

Date / Revised: 25.09.2020

Version: 1.0

Product: **Ultracur3D® ST45 M Photo-curable Resin**

(30770319/SDS_GEN_AU/EN)

Date of print 21.01.2021

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

Form: liquid
 Colour: slightly yellowish
 Odour: acrylic-like
 Odour threshold: Not determined due to potential health hazard by inhalation.

pH value:
 (approx. 10 g/l)

Freezing point:
 not determined

onset of boiling:
 The substance / product polymerizes therefore not determined.

Flash point: > 100 °C

Evaporation rate:
 not determined

Lower explosion limit:
 For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.

Upper explosion limit:
 For liquids not relevant for classification and labelling.

Ignition temperature:
 not determined

Thermal decomposition: 189.18 °C , 363.61 kJ/kg

Self ignition: not self-igniting

Explosion hazard: not explosive

Fire promoting properties: not fire-propagating

Vapour pressure:
 not determined

Density: approx. 1.118 g/cm³ (ISO 2811-3)
 (20 °C)

BASF 3D Printing Safety data sheet

Date / Revised: 25.09.2020

Version: 1.0

Product: **Ultracur3D® ST45 M Photo-curable Resin**

(30770319/SDS_GEN_AU/EN)

Date of print 21.01.2021

Relative density:	No data available.
Relative vapour density (air):	not determined
Solubility in water:	partly soluble (20 °C)
Hygroscopy:	Non-hygroscopic
Solubility (qualitative) solvent(s):	alcohols, esters, ketones soluble
Partitioning coefficient n-octanol/water (log Pow):	not applicable for mixtures
Surface tension:	No data available.
Viscosity, dynamic:	approx. 360 mPa.s (23 °C)

10. Stability and Reactivity

Conditions to avoid:

Avoid UV-light and other radiation with high energy. Avoid heat.

See SDS section 7 - Handling and storage.

Thermal decomposition: 189.18 °C, 363.61 kJ/kg

Substances to avoid:

peroxides, oxidizable substances, strong oxidizing agents, free radical initiators, initiators

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.

Hazardous decomposition products:

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

11. Toxicological Information

Acute toxicity

Experimental/calculated data:

LD50 rat (oral): 300 - 2,000 mg/kg

The product has not been tested. The statement has been derived from the properties of the individual components. Result of analysis for GOAL end points expected (see date)

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 100 %, dermal

Irritation

Experimental/calculated data:

Skin corrosion/irritation rabbit: Irritant.

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

Serious eye damage/irritation rabbit: irreversible damage

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

Respiratory/Skin sensitization

Assessment of sensitization:

May cause allergic skin reaction. The product has not been tested. The statement has been derived from the properties of the individual components.

Experimental/calculated data:

skin sensitizing

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

Assessment of reproduction toxicity:

No reliable data are available concerning reproduction toxicity.

Developmental toxicity

Assessment of teratogenicity:

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

Specific target organ toxicity (single exposure):

Remarks: No data available.

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

Assessment of repeated dose toxicity:

Repeated oral exposure to large quantities may affect certain organs.

Aspiration hazard

No aspiration hazard expected.

12. Ecological Information

Ecotoxicity

Assessment of aquatic toxicity:

Acutely toxic 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 - 10 mg/l, Fish

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

Aquatic invertebrates:

LC50 (48 h), daphnia (other)

not determined

Aquatic plants:

EC50 (72 h), algae (other)

not determined

Microorganisms/Effect on activated sludge:

EC50 (0.5 h), bacteria (other)

not determined

Chronic toxicity to fish:

No data available.

Chronic toxicity to aquatic invertebrates:

No data available.

Assessment of terrestrial toxicity:

No data available concerning terrestrial toxicity.

Mobility

Assessment transport between environmental compartments:

No data available.

Bioaccumulation potential

Assessment bioaccumulation potential:

The product has not been tested.

Additional information

Add. remarks environm. fate & pathway:

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

Other ecotoxicological advice:

BASF 3D Printing Safety data sheet
Date / Revised: 25.09.2020
Product: **Ultracur3D® ST45 M Photo-curable Resin**

Version: 1.0

(30770319/SDS_GEN_AU/EN)

Date of print 21.01.2021

Do not discharge product into the environment without control.

13. Disposal Considerations

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

Contaminated packaging:

Uncontaminated packaging can be re-used.

Packs that cannot be cleaned should be disposed of in the same manner as the contents.

14. Transport Information

Domestic transport:

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

Further information

Environmentally Hazardous Substances meeting the description of UN 3077 or UN 3082 are not subjected to the Australian Dangerous Goods Code when transported by road or rail in packagings not exceeding 500 kg(L) or IBCs.

15. Regulatory Information

Other regulations

Registration status:

AICS, AU

blocked / not listed

16. Other Information

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

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

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.