Safety Data Sheet
Ultracur3D® ST 45

1. Identification

Product identifier used on the label

Ultracur3D® ST 45

Recommended use of the chemical and restriction on use

Recommended use*: Stereolithography; Monomer in ultraviolet ink jet application; In an enclosed system
Unsuitable for use: Any other use is not compliant.

* 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 GmbH
Speyerer Str. 4
69115 Heidelberg, Germany

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: Preparation based on: urethane, acrylates, Polymer

2. Hazards Identification

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

Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
Skin Corr./Irrit.	2	Skin corrosion/irritation
Eye Dam./Irrit.	1	Serious eye damage/eye irritation

Skin Sens.	1	Skin sensitization
Repr.	1B (fertility)	Reproductive toxicity
Repr.	1B (unborn child)	Reproductive toxicity
STOT RE	2 (oral)	Specific target organ toxicity — repeated exposure
Aquatic Acute	2	Hazardous to the aquatic environment - acute
Aquatic Chronic	3	Hazardous to the aquatic environment - chronic

Label elements

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.
H360	May damage fertility. May damage the unborn child.
H412	Harmful to aquatic life with long lasting effects.
H401	Toxic to aquatic life.

Precautionary Statements (Prevention):

P280	Wear protective gloves, protective clothing and eye protection or face protection.
P260	Do not breathe dust/gas/mist/vapours.
P273	Avoid release to the environment.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
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.
P308 + P313	IF exposed or concerned: Get medical attention.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P330	Rinse mouth
P362 + P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Storage):

P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents/container in accordance with local regulations.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition / Information on Ingredients

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

2-Propen-1-one, 1-(4-morpholinyl)-
CAS Number: 5117-12-4
Content (W/W): >= 50.0 - < 75.0%
Synonym: No data available.

Urethane-acrylate Polymer
CAS Number: Trade Secret
Content (W/W): >= 25.0 - < 50.0%
Synonym: No data available.

Acrylate derivative
CAS Number: Trade Secret
Content (W/W): >= 3.0 - < 5.0%
Synonym: No data available.

Phenyl acrylate
CAS Number: Trade Secret
Content (W/W): >= 1.0 - < 5.0%
Synonym: No data available.

Proprietary compound
CAS Number: Trade Secret
Content (W/W): >= 0.3 - < 3.0%
Synonym: No data available.

diphenyl(2,4,6,-trimethylbenzoyl)phosphine oxide
CAS Number: 75980-60-8
Content (W/W): >= 0.3 - < 1.0%
Synonym: Diphenyl(2,4,6-trimethylbenzoyl)phosphineoxide

4. First-Aid Measures

Description of 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.

If on skin:
Wash affected areas thoroughly with soap and water. Seek medical attention.

If in eyes:
Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist. Remove contact lenses, if present. Immediate medical attention required.

If swallowed:
Immediately rinse mouth and then drink 200 - 300 ml water, do not induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

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.

Information on: Acrylate derivative
Symptoms: Overexposure may cause:, Eye irritation, skin irritation, erythema, allergic contact dermatitis, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps, Inhalation may provoke the following symptoms:, irritation of respiratory tract, coughing

Information on: Phenyl acrylate
Symptoms: Overexposure may cause:, Eye irritation, skin irritation, erythema, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps

Information on: diphenyl(2,4,6,-trimethylbenzoyl)phosphine oxide
Symptoms: Overexposure may cause:, allergic contact dermatitis, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps
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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:
water spray, dry powder, foam

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
harmful vapours, carbon oxides, nitrogen oxides
Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:
If exposed to fire, keep containers cool by spraying with water. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Do not breathe vapour/spray. Ensure adequate ventilation. Avoid contact with the skin, eyes and clothing. Use personal protective clothing.

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

Methods and material for containment and cleaning up
For large amounts: Dike spillage. Pump off product.
For residues: Pick up with inert absorbent material (e.g. sand, earth etc.).
Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling
Avoid aerosol formation. Do not inhale vapours / aerosols. Avoid contact with the skin, eyes and clothing. Wear suitable protective clothing and gloves. Provide good ventilation of working area (local exhaust ventilation if necessary).

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
Segregate from foods and animal feeds.

Further information on storage conditions: Containers should be stored tightly sealed in a dry place. Keep container dry because product takes up the humidity of air. Protect against heat. Protect from the effects of light. The stabilizer is only effective in the presence of oxygen. Ensure adequate inhibitor and dissolved oxygen level.
Protect from temperatures below: 0 °C
Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.
Protect from temperatures above: 40 °C
Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls/Personal Protection

No substance specific occupational exposure limits known.

Advice on system design:
Provide local exhaust ventilation to control vapours/mists.

Personal protective equipment

Respiratory protection:
Persons likely to be exposed via inhalation, where engineering control and administrative control measures are inadequate, use a NIOSH certified (or equivalent) respirator with a minimum APF of 50.

Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:
Wear chemically impervious protective gloves., Polyethylene-Laminate (PE laminate) - ca. 0.1 mm coating thickness, chloroprene rubber (Neoprene), nitrile rubber (NBR) - 0.4 mm coating thickness, Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (chemical goggles) and face shield.

Body protection:
Impermeable protective clothing

General safety and hygiene measures:
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with the skin, eyes and clothing. Avoid inhalation. Wearing of closed work clothing is recommended. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. When using, do not eat, drink or smoke.

9. Physical and Chemical Properties

Form:	liquid	
Odour:	acrylic-like	
Odour threshold:	No applicable information available.	
Colour:	slightly yellowish	
pH value:	substance/mixture is non-soluble (in water)	
Flash point:	> 100 °C	
Lower explosion limit:	not determined	
Upper explosion limit:	not determined	
Autoignition:	not determined	
Vapour pressure:	(20 °C) not applicable	
Density:	1.118 g/cm3 (20 °C)	(ISO 2811-3)
Vapour density:	not determined	
Partitioning coefficient n-octanol/water (log Pow):	not applicable for mixtures	
Self-ignition temperature:	not self-igniting	
Thermal decomposition:	178.73 °C, 323.06 kJ/kg	
Viscosity, dynamic:	360 mPa.s (23 °C)	

Viscosity, kinematic:	not determined
Solubility in water:	partly soluble, Information applies to the solvent.
Solubility (qualitative):	soluble solvent(s): alcohols, esters, ketones,
Evaporation rate:	not determined

10. Stability and Reactivity

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

Corrosion to metals:
Corrosive effects to metal are not anticipated.

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 stabilized against spontaneous polymerization prior to despatch.
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.

Conditions to avoid
Avoid heat. Avoid UV-light and other radiation with high energy. Avoid direct sunlight. Avoid prolonged storage. Avoid inhibitor loss.

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

Hazardous decomposition products

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

Thermal decomposition:
178.73 °C, 4 K/min

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: Of moderate toxicity after single ingestion. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: 2-Propen-1-one, 1-(4-morpholinyl)-
Assessment of acute toxicity:Of moderate toxicity after single ingestion. Of low toxicity after short-term skin contact.

Oral

Information on: 2-Propen-1-one, 1-(4-morpholinyl)-
Type of value: LD50
Species: rat (male/female)
Value: 588 mg/kg (OECD Guideline 401)

Dermal
Type of value: ATE
Value: > 5,000 mg/kg

Assessment other acute effects
Assessment of STOT single:
Based on available data, the classification criteria are not met.

Irritation / corrosion
Assessment of irritating effects: May cause severe damage to the eyes. Skin contact causes irritation. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: 2-Propen-1-one, 1-(4-morpholinyl)-
Assessment of irritating effects: May cause severe damage to the eyes. EU-classification Not irritating to the skin.

Information on: Acrylate derivative
Assessment of irritating effects: The European Union (EU) has classified the substance as "irritating to skin and eyes".

Sensitization
Assessment of sensitization: Sensitization after skin contact possible. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: 2-Propen-1-one, 1-(4-morpholinyl)-
Assessment of sensitization:
Sensitization after skin contact possible. EU-classification

Information on: Acrylate derivative
Assessment of sensitization:
Sensitization after skin contact possible.

Information on: Phenyl acrylate
Assessment of sensitization:
Caused skin sensitization in animal studies.

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

Assessment of sensitization:
Caused skin sensitization in animal studies.

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

Aspiration Hazard
No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: Repeated exposure may affect certain organs. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: 2-Propen-1-one, 1-(4-morpholinyl)-
Assessment of repeated dose toxicity: Repeated exposure may affect certain organs. EU-classification
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Genetic toxicity
Assessment of mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity
Assessment of carcinogenicity: None of the components in this product at concentrations greater than 0.1% are listed by IARC; NTP, OSHA or ACGIH as a carcinogen.

Reproductive toxicity
Assessment of reproduction toxicity: May impair fertility. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: diphenyl(2,4,6,-trimethylbenzoyl)phosphine oxide
Assessment of reproduction toxicity: Causes impairment of fertility in laboratory animals.

Teratogenicity
Assessment of teratogenicity: May cause harm to the unborn child. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: diphenyl(2,4,6,-trimethylbenzoyl)phosphine oxide
Assessment of teratogenicity: The substance caused malformations/developmental toxicity in laboratory animals.

Experiences in humans
No data available.

Other Information
The product has been assessed on the basis of the components' available data. To some extent data gaps exist for individual components. According to our present knowledge and experience dangers which are not covered by the current labeling are not to be expected.

12. Ecological Information

Toxicity

Aquatic toxicity
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.

Bioaccumulative potential

Assessment bioaccumulation potential
The product has not been tested.

Mobility in soil

Assessment transport between environmental compartments
No data available.

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:
The product has been assessed on the basis of the components' available data. To some extent data gaps exist for individual components. According to our present knowledge and experience dangers which are not covered by the current labeling are not to be expected. Do not discharge product into the environment without control.

13. Disposal considerations

Waste disposal of substance:
Dispose of in accordance with national, state and local regulations. Do not discharge into drains/surface waters/groundwater. Incinerate in suitable incineration plant, observing local authority regulations.

Container disposal:
Recommend crushing, puncturing or other means to prevent unauthorized use of used containers. Dispose of in accordance with national, state and local regulations. Incinerate or dispose of in a licensed facility.

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; restriction on use / listed

TSCA §5. Based on EPA's assessment that includes analogue data, a substance in this product has the potential to cause:
Carcinogenicity;
Genetic toxicity;
Specific target organ toxicity.
Hazard(s) not classifiable under GHS criteria.
This product contains a substance (CASRN 5117-12-4) which may cause internal organ and reproductive effects.
When using this product, use skin protection.
TSCA § 5(a) final Significant New Use Restriction (SNUR)
40 CFR 721.5185

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

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

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

NFPA Hazard codes:
Health: 3 Fire: 1 Reactivity: 0 Special:

16. Other Information

SDS Prepared by:
BASF 3D Printing NA Product Regulations
SDS Prepared on: 2022/11/28

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.

Ultracur3D® ST 45 Any other intended applications should be discussed with the manufacturer.

END OF DATA SHEET