

# Safety data sheet

Page: 1/14

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

Date / Revised: 18.06.2021

Version: 2.0

Product: **Ultracur3D® RG 35**

(ID no. 11109252/SDS\_GEN\_00/EN)

Date of print 01.07.2021

## 1. Identification

### Product identifier

## **Ultracur3D® RG 35**

| Recommended use: resin, inks, Chemical

### 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

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## 2. Hazards Identification

### Classification of the substance or mixture

According to UN GHS criteria

Skin Corr./Irrit. 2  
Eye Dam./Irrit. 2A  
Skin Sens. 1  
Aquatic Acute 3  
Aquatic Chronic 2

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

## Label elements

### Globally Harmonized System (GHS)

Pictogram:



Signal Word:  
Warning

Hazard Statement:

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H402	Harmful to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P261	Avoid breathing mist or vapour or spray.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.
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.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical attention.
P332 + P313	If skin irritation occurs: Get medical attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P337 + P313	If eye irritation persists: Get medical attention.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.
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## Other hazards

### According 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: 18.06.2021  
 Product: **Ultracur3D® RG 35**

Version: 2.0

(ID no. 11109252/SDS\_GEN\_00/EN)

Date of print 01.07.2021

### 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

##### | Polymeric urethane acrylate

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

##### | 7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate

Content (W/W): $\geq 25\%$ - $< 50\%$	Skin Sens. 1B
CAS Number: 72869-86-4	Aquatic Acute 3
EC-Number: 276-957-5	Aquatic Chronic 2
	H317, H402, H411

##### Oxydi-2,1-ethanediyl bismethacrylate

Content (W/W): $\geq 20\%$ - $< 25\%$	Skin Corr./Irrit. 3
CAS Number: 2358-84-1	Skin Sens. 1
EC-Number: 219-099-9	Aquatic Acute 3
	H316, H317, H402

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

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

##### | 2-Hydroxyethyl methacrylate

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

Date / Revised: 18.06.2021

Version: 2.0

Product: **Ultracur3D® RG 35**

(ID no. 11109252/SDS\_GEN\_00/EN)

Date of print 01.07.2021

Content (W/W):  $\geq 0\%$  -  $< 1\%$   
CAS Number: 868-77-9  
EC-Number: 212-782-2  
INDEX-Number: 607-124-00-X

Eye Dam./Irrit. 2B  
Skin Sens. 1B  
H320, H317

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

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## 4. First-Aid Measures

### Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water

On contact with eyes:

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

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

### Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in section 2 and/or 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.

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## 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.

BASF Safety data sheet according to UN GHS 4th rev.  
Date / Revised: 18.06.2021  
Product: **Ultracur3D® RG 35**

Version: 2.0

(ID no. 11109252/SDS\_GEN\_00/EN)

Date of print 01.07.2021

### **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.

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## **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.

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## **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. Avoid direct sunlight. Ensure adequate inhibitor and dissolved oxygen level. The stabilizer is only effective in the presence of oxygen. Maintain contact with atmosphere containing 5 - 21% oxygen.

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.

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## 8. Exposure Controls/Personal Protection

### Control parameters

#### Components with occupational exposure limits

868-77-9: 2-Hydroxyethyl methacrylate

### Exposure controls

#### Personal protective equipment

Respiratory protection:

Suitable respiratory protection for higher concentrations or long-term effect: Combination filter for gases/vapours of organic, inorganic, acid inorganic, alkaline compounds and solid and liquid harmful particles (e. g. EN 14387 Type ABEK-P2)

Hand protection:

Chemical resistant protective gloves (EN ISO 374-1)

Suitable materials for short-term contact (recommended: At least protective index 2, corresponding > 30 minutes of permeation time according to EN ISO 374-1)

butyl rubber (butyl) - 0.7 mm coating thickness

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:

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

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

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## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Form: liquid  
Colour: clear  
Odour: acrylic-like

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

Date / Revised: 18.06.2021

Version: 2.0

Product: **Ultracur3D® RG 35**

(ID no. 11109252/SDS\_GEN\_00/EN)

Date of print 01.07.2021

Odour threshold:	Not determined due to potential health hazard by inhalation.	
pH value:	approx. 7	
Melting point:	< 20 °C	
boiling temperature:	> 100 °C (1.013 hPa)	
Flash point:	> 100 °C	
Evaporation rate:	not determined, Value can be approximated from Henry's Law Constant or vapor pressure.	
Lower explosion limit:	not determined	
Upper explosion limit:	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	(DIN 51649-1)
Ignition temperature:	not determined	(DIN 51794)
Vapour pressure:	not determined	
Density:	not determined 1,09 g/cm <sup>3</sup> (55 °C) 1,111 g/cm <sup>3</sup> (20 °C)	
Solubility in water:	sparingly soluble	
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):	not applicable for mixtures	
Thermal decomposition:	218,54 °C, 103,58 kJ/kg	
Viscosity, dynamic:	approx. 620 mPa.s (23 °C) approx. 100 mPa.s (60 °C)	
Explosion hazard:	Based on the chemical structure there is no indication of explosive properties.	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	

**Other information**

BASF Safety data sheet according to UN GHS 4th rev.  
Date / Revised: 18.06.2021  
Product: **Ultracur3D® RG 35**

Version: 2.0

(ID no. 11109252/SDS\_GEN\_00/EN)

Date of print 01.07.2021

Self heating ability: not applicable, the product is a liquid

Other Information:

| If necessary, information on other physical and chemical parameters is indicated in this section.

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## 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.

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## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

Assessment of acute toxicity:

Virtually nontoxic after a single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

#### Irritation

Assessment of irritating effects:

| Eye contact causes irritation. Skin contact causes irritation.



BASF Safety data sheet according to UN GHS 4th rev.  
Date / Revised: 18.06.2021  
Product: **Ultracur3D® RG 35**

Version: 2.0

(ID no. 11109252/SDS\_GEN\_00/EN)

Date of print 01.07.2021

#### Respiratory/Skin sensitization

Assessment of sensitization:

| Sensitization after skin contact possible.

| *Information on: Oxydi-2,1-ethanediyl bismethacrylate*

| *Experimental/calculated data:*

*Freund's complete adjuvant test (FCA) guinea pig: sensitizing (other)*

#### 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:

| Based on available Data, the classification criteria are not met. Contains a component that causes reproductive toxicity in test animals.

| *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 available Data, the classification criteria are not met.

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

| *Assessment of teratogenicity:*

*At high doses there are indications of a developmental 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.

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

Assessment of repeated dose toxicity:

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

#### 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.

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## 12. Ecological Information

### **Toxicity**

Assessment of aquatic toxicity:

Harmful to aquatic life. Toxic to aquatic life with long lasting effects.

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

### **Persistence and degradability**

Assessment biodegradation and elimination (H<sub>2</sub>O):

Not readily biodegradable (by OECD criteria).

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

### **Bioaccumulative potential**

Assessment bioaccumulation potential:

Based on its structural properties, the polymer is not biologically available. Accumulation in organisms is not to be expected.

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

### **Mobility in soil**

Assessment transport between environmental compartments:

Volatility: The substance will not evaporate into the atmosphere from the water surface. The product has not been tested. The statement has been derived from the properties of the individual components.

Adsorption in soil: Adsorption to solid soil phase is not expected. The product has not been tested. The statement has been derived from the properties of the individual components.

### **Results of PBT and vPvB assessment**

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

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

Date / Revised: 18.06.2021

Version: 2.0

Product: **Ultracur3D® RG 35**

(ID no. 11109252/SDS\_GEN\_00/EN)

Date of print 01.07.2021

**Additional information**

Add. remarks environm. fate &amp; pathway:

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

Other ecotoxicological advice:

Do not discharge product into the environment without control.

**13. Disposal Considerations****Waste treatment methods**

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****Land transport**

ADR

UN number	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 7,7,9(OR 7,9,9)-TRIMETHYL-4,13-DIOXO-3,14-DIOXA-5,12-DIAZAHEXADECANE-1,16-DIYL BISMETHACRYLATE, DIPHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINE OXIDE)
Transport hazard class(es):	9, EHS
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known

RID

UN number	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 7,7,9(OR 7,9,9)-TRIMETHYL-4,13-DIOXO-3,14-DIOXA-5,12-DIAZAHEXADECANE-1,16-DIYL BISMETHACRYLATE, DIPHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINE OXIDE)
Transport hazard class(es):	9, EHS

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

Date / Revised: 18.06.2021

Version: 2.0

Product: **Ultracur3D® RG 35**

(ID no. 11109252/SDS\_GEN\_00/EN)

Date of print 01.07.2021

Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known

**Inland waterway transport**

ADN

UN number	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 7,7,9(OR 7,9,9)-TRIMETHYL-4,13-DIOXO-3,14-DIOXA-5,12-DIAZAHEXADECANE-1,16-DIYL BISMETHACRYLATE, DIPHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINE OXIDE)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known

**Transport in inland waterway vessel**

Not evaluated

**Sea transport**

IMDG

UN number:	UN 3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 7,7,9(OR 7,9,9)-TRIMETHYL-4,13-DIOXO-3,14-DIOXA-5,12-DIAZAHEXADECANE-1,16-DIYL BISMETHACRYLATE, DIPHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINE OXIDE)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	Marine pollutant: YES
	None known

**Air transport**

IATA/ICAO

UN number:	UN 3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

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

Date / Revised: 18.06.2021

Version: 2.0

Product: **Ultracur3D® RG 35**

(ID no. 11109252/SDS\_GEN\_00/EN)

Date of print 01.07.2021

	N.O.S. (contains 7,7,9(OR 7,9,9)-TRIMETHYL-4,13-DIOXO-3,14-DIOXA-5,12-DIAZAHEXADECANE-1,16-DIYL BISMETHACRYLATE, DIPHENYL(2,4,6-TRIMETHYLBENZOYL)PHOSPHINE OXIDE)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes
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

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

## 16. Other Information

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

Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Sens.	Skin sensitization
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Repr.	Reproductive toxicity
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H402	Harmful to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H316	Causes mild skin irritation.
H361	Suspected of damaging fertility. Suspected of damaging the unborn child.
H401	Toxic to aquatic life.
H320	Causes eye irritation.

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

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

Date / Revised: 18.06.2021

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Product: **Ultracur3D® RG 35**

(ID no. 11109252/SDS\_GEN\_00/EN)

Date of print 01.07.2021

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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