

User Guideline

Ultracur3D® ST 80

The following User guideline is for professionals who use: **Ultracur3D® ST 80**.

The safety data given in this publication is for information purposes only and does not constitute a legally binding Material Safety Data Sheet (MSDS). The relevant MSDS can be obtained upon request from your supplier or you may contact BASF directly at sales@basf-3dps.com.

For more information, please refer to the country specific MSDS for advice.

Manufacturer

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Storage Conditions and Disposal Considerations

Keep container tightly closed in a room temperature, well-ventilated place. Keep container dry. If Material is not being used fill it back through a filter in the corresponding material bottle. The filter prevents to fill cured pieces or failed prints back into the bottle. Ultracur3D® ST 80 must be disposed of or incinerated in accordance with local regulations.

For more information, please refer to the country specific MSDS for advice.

Delivery units

Ultracur3D® ST 80 is available in the following packaging sizes: 1 kg, 5 kg, 10 kg and possible larger volume packaging are also available upon request.

Intended Use

Ultracur3D® ST 80 is a technical material based on (meth-)acrylate resin for suggested DLP systems. Working wavelength: 355nm, 385 nm or 405 nm. Attached a list of suggest 3D printer and Printing parameters. For more information contact BASF directly at sales@basf-3dps.com.

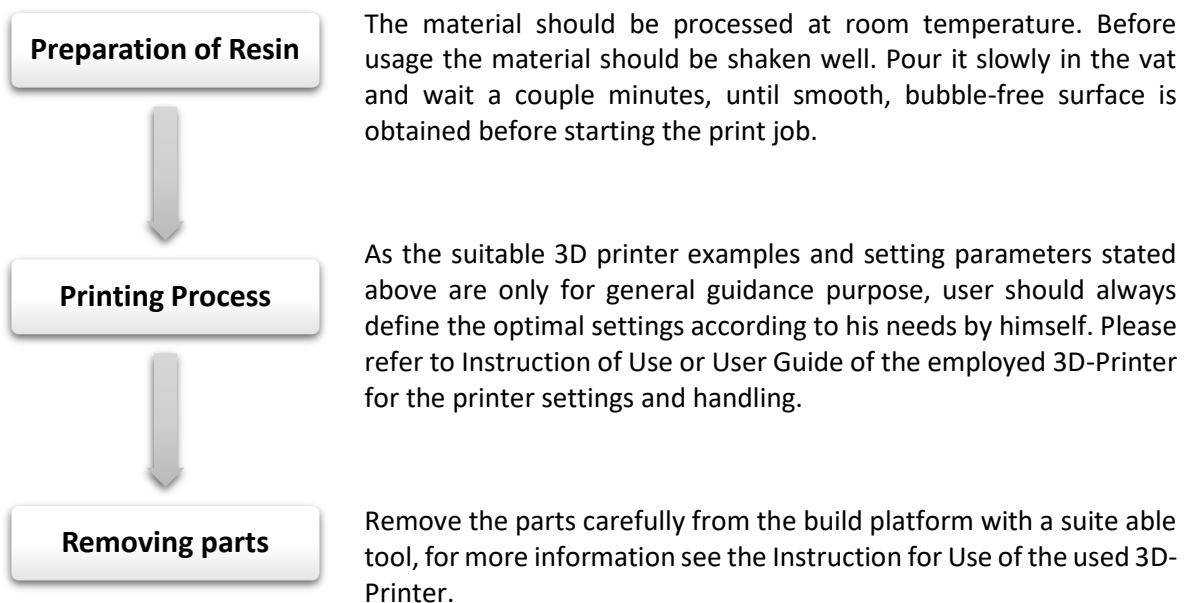
The data contained in this publication are based on our current knowledge and experience. They do not constitute an agreed contractual quality of the product and, in view of the many factors that may affect processing and application of our products, do not relieve processors from carrying out their own investigations and tests. The agreed contractual quality of the product at the time of transfer of risk is based solely on the data in the specification data sheet. Any descriptions, drawings, photographs, data, proportions, weights, etc. given in this publication may change without prior information. The customer and/or user is responsible to consider and respect all hazard and safety issues according to the MSDS of Ultracur3D® ST 80 and take, implement and/or install adequate measures and precautions to avoid any personal injuries, property damages and/or environmental pollution. Therefore, BASF3D Printing Solutions GmbH shall not be liable for any personal injury, property damages and/or environmental emissions arising out of or related to the testing, handling or usage, storage and possession of Ultracur3D® ST 80. It is the sole responsibility of the recipient of our product to ensure that any proprietary rights and existing laws and legislation are observed (02/2020)

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Example of Suitable 3D-Printers and Settings

| PRINTER | MIICRAFT ULTRA 125 | ORIGIN ONE (ORIGIN) | PRUSA SL 1 |
|-------------|------------------------|------------------------|---------------------------|
| Wavelength | 385 nm | 385 nm | 405 nm |
| Power | 4 mW / cm ² | 5 mW / cm ² | 0.45 mW / cm ² |
| Curing time | 3.5 s | 3.25 s | 50 s |
| Voxel depth | 100 µm | 100 µm | 100 µm |

Printing Process



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Cleaning and Post curing process

Cleaning Process

Ultracur3D® ST 80 can be cleaned with a Glycol Ether based solvent like Ultracur3D® Cleaner & 2-propanol, please refer to the following cleaning procedure.

Cleaning with Ultracur3D® Cleaner & 2-propanol

Step 1: Place the parts in a container filled with Ultracur3D® Cleaner and *place this container* in an Ultrasonic bath filled with water for 3 minutes.

Step 2: Rinse the parts with 2-propanol for a few seconds. Fine structures or holes may be better cleaned by using 2-propanol and a syringe or by separate brushing. Next, place the parts in a container filled with 2-propanol and *place this container* in an Ultrasonic bath filled with water for 3 minutes.

Step 3: Blow dry the parts with pressure air/nitrogen, until the parts are clean.

Drying

Place the parts into a warming cabinet @40°C for 30 minutes.

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Post curing

Ultracur3D® ST 80 parts require adequate post curing to achieve the optimized final mechanical properties. After each post-curing cycle, the part needs to be flipped to achieve an even curing.

Examples of post curing procedures

MiiCraft Ultra 125

| Post-curing unit | Otoflash G171 | Dymax ECE 2000 flood |
|------------------------------|---------------|----------------------|
| Amount of cycles | 2 | 2 |
| Duration of one curing cycle | 2000 flashes | 180 seconds |

Origin One (Origin)

| Post-curing unit | Dymax ECE 2000 flood |
|------------------------------|----------------------|
| Amount of cycles | 2 |
| Duration of one curing cycle | 600 seconds |

Prusa SL 1

| Post-curing unit | Dymax ECE 2000 flood |
|------------------------------|----------------------|
| Amount of cycles | 2 |
| Duration of one curing cycle | 600 seconds |

Finishing Process

Remove, if necessary, support structures and smoothing the surface.

These proceedings are only general guidelines, the optimal printing settings as well as curing time must be defined by the user himself. The post-curing might differ by using different 3D-Printers and different post-curing units may require different settings.

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