



## Liqcreate Bio-Med Clear

A biocompatible 3D-printing resin for Digital Light Processing (DLP), Liquid Crystal Display (LCD) and laser based 3D-printers. Liqcreate Bio-Med Clear is perfect for applications that require non-cytotoxic, non-sensitizing and non-irritating features.

### Product description

Liqcreate Bio-Med Clear is a rigid clear photopolymer resin and can be processed on most resin based 3D-printers. 3D-printed parts from this material exhibit biocompatible properties when post-cured according to the manufacturers guidelines (page 4). After washing and post-curing, printed parts from Liqcreate Bio-Med Clear are capable of passing the biocompatibility tests of: Cytotoxicity (ISO 10993-5:2009), Sensitization (ISO 10993-10:2021) and Irritation (ISO 10993-23:2021). Printed parts from Bio-Med Clear can be disinfected with commonly used disinfectants or sterilized by steam sterilization.

### Key benefits

- Biocompatible
- Steam sterilization possible
- High accuracy
- Dimensional stable

### 3D-Printer compatibility

- Asiga UV series
- Elegoo & Anycubic series
- Phrozen series
- [Open 385 - 420nm DLP, LCD and SLA 3D-printers](#)

### Order information

Order directly at the [Liqcreate store](#) or send your inquiry to [order@liqcreate.com](mailto:order@liqcreate.com) with the following order numbers.

Liqcreate Bio-Med Clear  
Liqcreate Bio-Med Clear

250gram  
1 kg

Order number LSGC00250  
Order number LSGC01000





## Liqcreate Bio-Med Clear Technical Data

Liquid properties			
Appearance	Clear liquid	Ec (405nm)	6.10 mJ/cm <sup>2</sup>
Viscosity	475 cps at 25° C	D <sub>p</sub> (405nm)	0.12 mm
Density	1.18 g/cm <sup>2</sup>	Ec (385nm)	4.10 mJ/cm <sup>2</sup>
		D <sub>p</sub> (385nm)	0.05 mm

Polymer properties			
Description	ASTM / ISO Method	Metric <sup>1</sup>	Imperial <sup>1</sup>
Tensile strength	D638M	55 MPa	8.00 ksi
Elongation at break	D638M	5 - 10 %	5 - 10 %
Tensile modulus	D638M	2.0 GPa	290 ksi
Flexural strength	D790	89 MPa	12.91 ksi
Flexural modulus	D790	2.2 GPa	319 ksi
Flexural strength	ISO 20795-2	78 MPa	11.31 ksi
Flexural modulus	ISO 20795-2	1.7 GPa	274 ksi
IZOD Impact notched	ISO 180	3.04 kJ/m <sup>2</sup>	1.45 ft-lb/in <sup>2</sup>
IZOD Impact notched	D256	28 J/m	0.53 ft-lb/in
Water sorption	D570-98	0,54%	0,54%
Degradation temperature	Internal method	> 250° C <sup>2</sup>	> 482° F <sup>2</sup>
HDT-B 0.45 MPa	ISO75	62° C	144° F
HDT-A 1.80 MPa	ISO75	48° C	118° F
Shore A Hardness	D2240	85	85
Cytotoxicity	ISO 10993-5:2009		Comply
Sensitization	ISO 10993-10:2021		Comply
Irritation	ISO 10993-23:2021		Comply

<sup>1</sup>Post-cured 30 minutes with high power LED curing at 60° C in the Wicked Engineering curebox. These values may vary and depend on individual machine processing and post-curing. Always follow the recommend post-curing workflow from the manufacturer to ensure biocompatibility. <sup>2</sup>Material will soften above HDT value but not break/crack up to 250° C without force on the part, discoloration above 180° C.



## Liqcreate Bio-Med Clear sterilization properties

Polymer properties				
Description	Method	After UV-cure	After steam sterilization 121 °C	After steam sterilization 134 °C
Flexural strength	ISO 20795-2	78 MPa	75 MPa	73 MPa
Flexural modulus	ISO 20795-2	1.7 GPa	2.2 GPa	2.2 GPa
Flexural strength	D790	89 MPa	80 MPa	75 MPa
Flexural modulus	D790	2.2 GPa	2.5 GPa	2.4 GPa

*Post-cured 30 minutes with high power LED curing at 60 °C in the Wicked Engineering curebox.*



## Liqcreate Bio-Med Clear processing workflow

For reaching the properties as described above and to insure biocompatibility it is important to follow the validated workflow described below.

### Print process

Before printing make sure to shake the bottle for 2 minutes and that the parts are printed in an environment at 20-25°C. Validated printer settings can be found on our website: [Compatible 3D-printers with Liqcreate resins | Liqcreate](#).

### Wash and cure process

1. Remove the parts from the build platform.
2. Remove the support structures.
3. Wash the parts for 2 minutes in IPA or ethanol in an ultrasonic cleaner.
4. Wash the parts for a second time for 2 minutes in fresh IPA/Ethanol.
5. leave the parts to dry under ambient conditions for a minimum of 60 minutes.
6. Cure the parts for 30 minutes at 60°C in the Wicked Engineering Curebox.

### Biocompatibility

Liqcreate Bio-Med Clear has been proven capable of passing the cytotoxicity testing according to ISO 10993-5:2009, sensitization testing according to ISO 10993-10:2021 and irritation testing according to ISO 10993-23:2021 within a specific workflow. When using this product for making a regulated medical device the user must assume all the responsibility for registration and use of this device.

Visit [www.liqcreate.com](http://www.liqcreate.com) for more information about this product.