

# LIQCREATE



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## User's guide Liqcreate® Premium Black

Liqcreate Premium Black is an opaque black photopolymer with excellent color stability. 3D-printed parts from this material have exceptional dimensional stability and low shrinkage during printing. Liqcreate Premium Black is easy to use on all open source LCD and DLP 3D-printers in the range of 385 - 420nm. This material has excellent properties like low shrinkage and low odor, which makes it ideal for applications that require an opaque, deep black surface finish.

This User's Guide provides useful information to get the best experience from our product, Liqcreate Premium Black. This includes handling of the materials, safety and parameters for several 3D-printers.





## Table of content

1. General information .....	1
2. Resin Handling .....	1
3. Compatibility 3D-printers .....	2
4. Build parameters .....	<b>Fout! Bladwijzer niet gedefinieerd.</b>
4.1. Wanhao Duplicator 7 .....	<b>Fout! Bladwijzer niet gedefinieerd.</b>
4.2. Anycubic Photon .....	<b>Fout! Bladwijzer niet gedefinieerd.</b>
4.3. Kudo3D Bean .....	<b>Fout! Bladwijzer niet gedefinieerd.</b>
4.4. Phrozen Shuffle .....	<b>Fout! Bladwijzer niet gedefinieerd.</b>
5. Post-processing .....	2
5.1. Spill cleaning protocol .....	2
6. Safety .....	2
7. Storage and transport .....	3
8. Plastic and Packaging Waste .....	3



## 1. General information

Liqcreate Premium Black is part of our Premium LCD photopolymer family. This User's Guide contains useful information to get started with this resin. The table below explains all signs on the label.

Label Signs	Definition
	Liquid waste and contaminated towels should be treated as chemical waste
	Keep bottles and resin out of direct (sun) light
	Resin and packaging should not be stored below 5°C or above 30°C for a longer period
	This bottle contains 1000 grams or 250 grams of liquid resin when un-used
	This resin is designed to be printed at 25 to 100 micron layer thickness. More information on printing parameters is mentioned in chapter 4
	Shake bottles properly before use.
	This resin is designed to be printed on both LCD (Liquid Crystal Display) and DLP (projection based) 3D-printers. Ideally within the range of 385-405nm

## 2. Resin Handling

Shake the bottle for at least 60 seconds before use. After shaking leave the resin to rest for 10 minutes to let air bubbles escape. The resin can be poured back into the bottle after use. Check the resin for residual pieces of polymer before pouring back the resin in the bottle. Always use protective measurements when handling Liqcreate resins. Extended safety instructions can be found in the safety data sheet.



### 3. Compatibility 3D-printers

Liqcreate Premium Black is a photopolymer designed for LCD and DLP technologies in the range of 385 to 420nm. Several 3D-printers have pre-defined settings, explained in the next chapter. Look at <https://www.liqcreate.com/supportarticles/3d-printers-are-compatible-with-liqcreate-resins/> for the most recent settings. If your 3D-printer is not on this list, please contact our experts at [info@liqcreate.com](mailto:info@liqcreate.com)

- ! Do not store Liqcreate Premium Black in PDMS resin trays for extended periods. Resin trays might swell and the PDMS will separate from the plastic bottom. This will not happen in PTFE or high-quality resin trays.

### 4. Post-processing

Post-processing is advised to get the optimal properties out of your prints. This includes rinsing 5 minutes in IPA or (Bio) Ethanol, preferably ultrasonic or under agitation. Make sure the parts are dry before post-curing, this could be done by placing the parts in a well ventilated area for at least 30 minutes or use pressurized air for 2 minutes. The last step includes curing in a high-power UV curing chamber for 15 minutes at 65 degrees Celsius. Preferred wavelength of the curing unit should be between 300-410nm.

**Caution:** Green parts could break or crack if they are exposure to solvents (Bio)ethanol, IPA) for longer than 20 minutes.

- ! **Caution:** Green parts need to be completely dry before post-curing. Curing wet and or sticky parts can lead to parts with surface defects.
- **Caution:** Using a low-power curing unit can lead to inferior part properties
- **Caution:** Always use proper protection (Chapter 4). Parts are save to touch without gloves after proper post-curing.

#### 4.1. Spill cleaning protocol

Spilled resin can be cleaned with standard rinsing solvents like (Bio)Ethanol or IPA. Treat towels with resin as chemical waste.

### 5. Safety

Liqcreate liquids and green parts should always be handled with care using the advised precautions such as gloves, glasses and protective clothing. Dispose all safety items that have been in contact with liquid resin as chemical waste. Inform the Safety Data Sheet for more information.



## 6. Storage and transport

Liqcreate liquids should be stored in the original package in a dark and dry area between 5 and 30 degrees Celsius. Close the packaging after every use. For transport the liquids should not be exposed to temperatures above 60 degrees Celsius to ensure the expiry date.

## 7. Plastic and Packaging Waste

Fully polymerized Liqcreate products can be treated as plastic waste and are not harmful for the environment. Liquid residue (washing solvent and contaminated papers included) should be treated as chemical waste and disposed as such.

Aluminum packaging can be cleaned by rinsing it with IPA or (Bio)Ethanol and disposed for recycling. Cardboard packaging should be disposed at a recycling point.