

# BB Base

## 3D printing resin for BB Base

Version 1.2 2018/08/15

The following instruction is intended exclusively for dental professionals, such as dentists, oral maxillofacial surgeons and dental technicians to print BB Base using BB Base resin. For safety datasheets, please visit [www.enlightenmaterials.com](http://www.enlightenmaterials.com) for more information.

### Introduction

BB Base is a monomer-based acrylic resin for the printing of BB Base with high flexural strength, low shrinkage and excellent cytocompatibility using high resolution 3D printers. It is a Class II material and certified by TFDA. It is developed by ENLIGHTEN MATERIALS Co., Ltd.

### Applications

BB Base can be used for DLP and SLA 3D printers.

### Contraindication

BB Base should not be used for any other applications other than BB Base.

### Storage and transportation

BB Base resin should be stored and transported in the original package at room temperature in a dark area, preferably not exceeding 25°C. The expiry date of the resin is shown on the label. Do NOT use the resin if the expiry date is exceeded. After the printing the resin, the resin left in the resin tank of a 3D printer should NOT be mixed and stored with the unused resin. It should be stored in another light-proof container.

### Procedures for printing and post-processing

Please read the safety data carefully before using BB Base. Shake BB Base well in the original packaging for 1 minute before using it. It is recommended to wear nitrile gloves when using BB Base until post-curing procedure is completed.

#### 1. Printing

Pour BB Base resin into the resin tank of a 3D printer, and import the denture base model into the 3D printer for printing.

## 2. Washing

Remove the printed BB Base from the build platform and soak in IPA (isopropanol) or 95% ethanol to remove the extra resin. Use an ultrasonic cleaner if necessary. Please be aware that IPA and ethanol must NOT be placed directly in the tank of the ultrasonic cleaner.

## 3. Drying

Ensure the BB Base clean. Do not remain liquid resin or ethanol.

## 4. Post-Curing

For post-curing, the curing energy and curing time depends on the post-curing unit. For example, a good surface hardness and biocompatibility can be achieved by 10 minutes of post-curing using a 36W (12W CCFL + 24W LED) UV curing box at 405nm or using Formlabs FormCure curing box at 405nm at 60°C for 15 minutes.

## Sterilization

If necessary, sterilization of the printed denture base using 70% ethanol is recommended. Do NOT use autoclave for sterilization.

## Material Properties

Property	Value
Flexural Strength	>3060 MPa
Flexural Modulus	>110.7 MPa
Hardness	>75 Shore D
Viscosity	1.43 Pa·s

## Biocompatibility testing (According to EN-ISO 10993-5:2009)

Sample	Received Date	Result 1: Morphology	Result 2: MTT assay	Average	Cytotoxicity
BB base	2018.03.30	0	0	0	None

Cytotoxicity: 0 = None, 0~1 = Slight, 1~2 = Mild, 2~3 = Moderate, 3~4 = Severe.

## Extraction medium condition

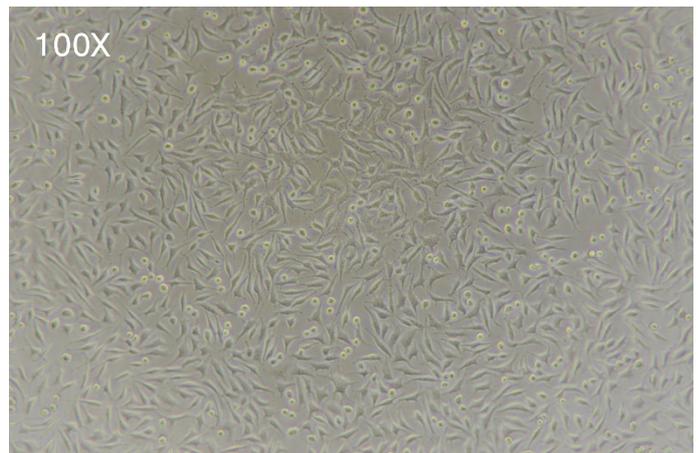
Sample	Received Date	Surface Area (cm <sup>2</sup> )	Volume of Extraction Medium (ml)	Extraction Temp (°C)
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## Qualitative morphological grading

### 1. BB Base (0)



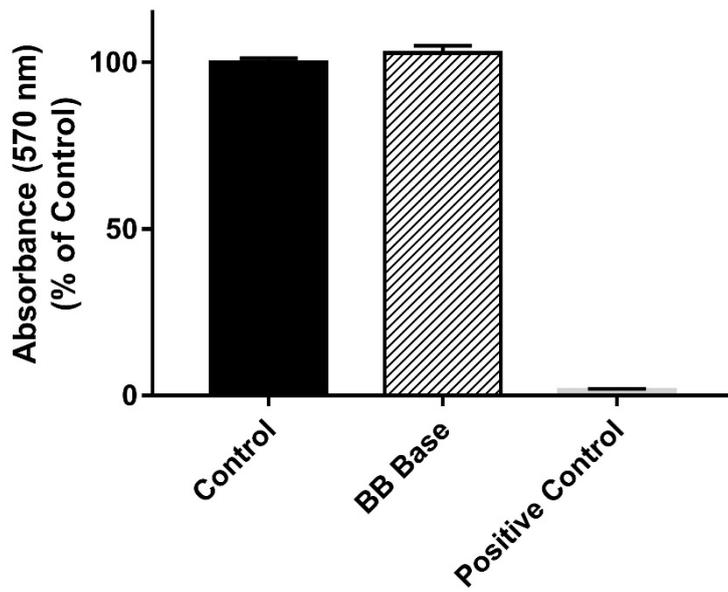
### 2. Negative Control (0)



### 3. Positive Control (4)



## MTT cytotoxicity test



## MTT test grading

Sample	Cytotoxicity (%)	MTT test grading
BB Base	-2.83%	0
Positive Control	98.35%	4

Grade: < 10% = 0    10~30% = 1    30~50% = 2    50~70% = 3    > 70% = 4

**Company:** Enlighten Materials Co., Ltd. 8F, No138, Jinshan South Road, Taipei, Taiwan

**Emergency phone number:** +886-988-661-609