

# Instructions for Use

## DENTAL SG

Prepared: 08/15/2016

REV: 03

The following instructions for use are for Formlabs Dental SG biocompatible photopolymer resin (Dental SG). Basic information about safety and environmental concerns are also included. For more detailed safety and environment information please refer to the safety datasheet, available at [formlabs.com](http://formlabs.com). For further information regarding the use of material, please contact Formlabs.

- DE** Um eine deutschsprachige Gebrauchsanweisung zu erhalten, besuchen Sie bitte entweder [Formlabs.com](http://Formlabs.com) oder kontaktieren Sie den Formlabs Kundenservice.
- FR** Le mode d'emploi est disponible en Français sur [Formlabs.com](http://Formlabs.com) et via notre service client.
- JA** 日本語での使用方法については[Formlabs.com](http://Formlabs.com)を参照、または弊社のカスタマーサポートまでお問い合わせください。

## 1. Introduction & Contra-indication

Dental SG is a class I biocompatible photopolymer resin made of a mixture of methacrylic esters and photoinitiators. Dental SG can only be used exclusively with Formlabs stereolithographic 3D printers. It is designed primarily for the manufacture of 3D printed parts for use as dental surgical guides or similar applications.

Dental SG has been engineered to comply with the industry standards specifically identified here and in the safety data sheet, and have been tested according to relevant testing protocols for those standards.

Dental SG is a speciality product, developed for use by medical professionals, and should be used in accordance with the instructions for use. Users should independently verify the suitability of the material for their particular application and intended purpose.

Use dedicated accessories for Dental SG Resin. For full compliance and biocompatibility, Dental SG Resin requires a dedicated resin tank, build platform, and finishing kit, which should not be mixed with any other resins.

## 2. Hazard and Precaution

**Eye contact:** High vapor concentration may cause irritation.

**Skin contact:** May cause sensitization by skin contact. Irritating to skin. Repeated and/or prolonged contact may cause dermatitis.

**Inhalation:** Irritating to respiratory system. Prolonged or repeated exposure may cause: headache, drowsiness, nausea, weakness (severity of effects depends on extent of exposure).

**Ingestion:** Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.

**Protection:** Protective glasses and nitrile gloves should be worn while handling Formlabs Dental SG resin. Detailed information about the handling of Dental SG resin can be found in the safety datasheet at [formlabs.com](http://formlabs.com).

### Hazard Phrases:

H317 May cause an allergic skin reaction

H413 May cause long lasting harmful effect to aquatic life

**Storage Precautions:** Suitable — Store in a cool, dry place out of direct sun light, in opaque or amber containers. Store the containers at 10 – 25 °C (50 – 77 °F). Do not exceed 25 °C (77 °F) when in storage. Keep containers closed. Avoid ignition sources.

**Expiry date:** Product expiry date can be found on container label. Product is only guaranteed for use prior to this date.

### 3. Processing Printed Parts

For full instructions on the use of Formlabs 3D printers, please refer to [formlabs.com](http://formlabs.com) or contact Formlabs customer support.

**Set up:** Insert resin cartridge into compatible Formlabs 3D printer.

**Printing:** Prepare a print job using PreForm software. Send print job to printer. Begin print by selecting print job from print menu. Follow any prompts or dialogs shown on printer screen. Printer will automatically complete print.

**Part removal:** Remove build platform from printer. Remove part from build platform using the part removal tool. For detailed techniques see our online support material.

**Rinsing:** Required — rinse parts in a bath of 90%+ isopropyl alcohol for 10 minutes. Remove from bath and immediately place in another bath of clean, unused 90%+ isopropyl alcohol. Leave for an additional 10 minutes before removing.

**Drying & inspection:** Required — Parts should be allowed to dry thoroughly. Ensure that parts are clean and dry, with no residual stickiness.

### 4. Post-curing

**Post-curing:** Required — parts must be fully post-cured by exposure to UV light and heat for biocompatibility and optimal mechanical properties. A color change from translucent yellow to a uniform translucent orange will occur.

**Warning:** visible-light curing will not post-cure the material.

Cure time will depend on the wavelength and intensity of light used, and the internal temperature of the curing device. One acceptable method for post-curing is exposure for 10 minutes to 108 watts each of Blue UV-A (315 – 400 nm) and UV-Blue (400 – 550 nm) light, in a heated environment at 60 °C (140 °F). One acceptable lighting setup is six (6) 18W/71 lamps (Dulux L Blue) and six (6) 18W/78 lamps (Dulux blue UV-A).

For further information on post-curing, as well as recommended post-curing solutions, please contact Formlabs customer support.



A. Printed



B. Post-cured

### 5. Post-processing

**Support material removal:** Recommended — remove support material after post-curing. Support material should be removed from printed model using cutting tools such as those provided in the Formlabs printer finishing kit.

**Assembly:** Recommended — Insert metal sleeves into guide holes before cleaning or sterilizing.

The final performance characteristics of cured photopolymer resin may vary according to your compliance with the instructions for use, application, operating conditions, material combined with, end use, or other factors.



C. Finished



D. Assembled

## 6. Cleaning and disinfecting

**Post-curing:** Required — Fully rinse, dry, and post-cure parts before cleaning or sterilization (see 4. Processing printed parts).

**Disinfecting:** Recommended — Clean with non-chemical products. If chemical disinfection methods are necessary, ethanol solution is recommended.

**Sterilization:** Recommended — steam sterilization in autoclave, or gamma-ray sterilisation. Steam sterilization in an autoclave can be done with the printed guide in a pouch. Recommended autoclave cycles are 15 minutes at 121 °C or 3 minutes at 138 °C.



E. Sterilized

## 7. Disposal Considerations


**Disposal:** Dispose of in accordance with governmental regulations (community, national or regional). Contact a licensed professional waste disposal service to dispose of this mixture. As with all foreign substances, do not allow to enter storm or sewer drainage systems. Avoid release into the environment.


**Contaminated Packaging:** Dispose of as unused product. Expose the open emptied container to light, then dispose.

## 8. Symbols & Manufacturer Information

 : CE mark

 : Batch number of product

 : Keep away from sunlight

 : Manufacturer

 : Consult instructions for use

 : Use-by date

Dental SG is manufactured for Formlabs by Vertex Dental.

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## Additional Resources

VISIT [FORMLABS.COM](https://formlabs.com) FOR:

		
Email Support	Discussion Forums	Help Articles

*This guide is available in other languages on our website.*