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NextDent, the leading manufacturer of dental materials for 3D printing.

NextDent B.V. is an independent subsidiary company under the Vertex Global Holding. NextDent's mission is to become the worldwide leading manufacturer of CE-certified and biocompatible dental 3D printing materials. NextDent's Research and Development team is constantly searching for the best possible solutions in order to become a benchmark for 3D printing materials in the dental field. The company's focus is on development of custom-made 3D printing solutions in close cooperation with our customers.

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SG

Monomer based on acrylic esters for manufacturing of 3D-printed surgical guides



Leading manufacturer of dental materials for 3D printing

Instruction For Use

SG

NextDent™ SG is a monomer based on acrylic esters for manufacturing of 3D-printed surgical guides. Suitable for printing all types of surgical guides. NextDent™ SG is a class I material and CE-certified.

The following instructions for use are for dental professionals who use NextDent™ SG as a surgical guide material. NextDent™ SG is intended exclusively for professional dental work. This instruction for use provides also information about safety and environmental aspects, a safety datasheet is available on www.nextdent.com and at local dealers. In case more information is needed about the processing of NextDent™ SG material contact the NextDent office. Also see information at the end of this document.

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IFU ID: INSG201704UK

Description and effects

NextDent™ SG can be used in combination with all laser and DLP based 3D printers which support NextDent materials.

Contra-indication

NextDent™ SG should not be used for any other purpose than dental surgical guides only. Any deviation from this instruction for use may have negative effect on the chemical and physical quality of NextDent™ SG. In case of an allergic reaction, please contact a medical physician.

Hazard & Precaution (H&P phrases)

Inhalation:

Irritating to respiratory system. High atmospheric concentrations may lead to irritation of the respiratory tract, dizziness, headache and anesthetic effects.

Skin contact:

May cause sensitization by skin contact. Irritating to skin, repeated and/or prolonged contact may cause dermatitis.

Eye contact:

High vapor concentration may cause irritation.

Ingestion:

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

Protection:

Wear protection when handling NextDent products. Protective glasses and gloves are advised. Information about the handling of the product can be found in the safety datasheet, which is available on www.nextdent.com.

Hazard Phrases:

Pictogram



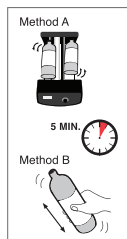
Signal word Warning

Hazard statements

H317 May cause an allergic skin reaction
H413 May cause long lasting harmful effect to aquatic life

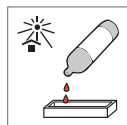
Processing / Post-curing

Make sure that you work as clean as possible, dirty reservoirs or machines can cause deformation and therefore failure of the printed objects!



Shake for 5 minutes before use

Before using NextDent™ SG, make sure to mix the product in the original packaging for 5 minutes. Color deviations and print failures may occur when shaken insufficiently.



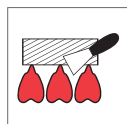
Fill printer reservoir

Pour the liquid material in the reservoir of the 3D-printing machine.



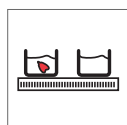
For printer settings see IFU of 3D Printer

Follow the instructions for use of the printer. These are delivered together with the printer.



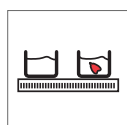
Remove printed parts from platform

When the machine has finished its program remove the building platform from the machine. Place the platform on some paper or cloth with the built jobs facing upwards. The printed jobs can now be removed from the platform using a suitable knife.



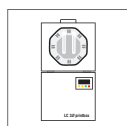
Cleaning Pieces step 1

Rinse the printed jobs for three minutes in an alcohol solution (>90%) to eliminate any excess material, using of an ultrasonic bath.



Cleaning Pieces step 2

Rinse for two minutes in a clean alcohol solution (>90%). Rinsing in a alcohol solution should not take longer than 5 minutes, as this may cause defects in the printed parts.



Post-Cure

After cleaning make sure the printed parts are dry and free of alcohol residual. Then place the printed jobs in a UV- light curing box for final polymerization.

Post-curing is an UV-light treatment to ensure that NextDent materials obtain full polymer conversion. Through this the residual monomer is reduced to a minimum and the required mechanical properties are obtained. This procedure is a necessary step to produce a biocompatible end-product. We strongly advice to make use of the NextDent™ LC 3D Printbox.

Specific curing-time NextDent™ SG

NextDent Material	Time (min.)	Wavelength (nm.)	Total output Light (Watt)	UV lightbox output W*sec=J kJ
SG	10	Blue UV-A 315-400 UV-Blue 400-550	UV-A 108 UV-Blue 108	129,6

The unit used at NextDent has 6x 18W/71 lamps (Dulux L Blue) and 6, 18W/78 lamps (Dulux blue UV-A). The calculated output is based on the UV light UVA lamp Blue. Please notice that the light sources and the printing machine need a routine maintenance following the manufacturer instructions.

Finishing

Remove any support structures and finish jobs if necessary, using conventional dental methods and instruments. Differences in color nuance may occur due to production in batches of the raw material and product or inadequate shaking of the original packaging before use.

Storage conditions, expiry date and transport

Store the product in the original packaging at room-temperature in a dry and dark area, preferably not exceeding 25°C. Close the packaging after each use. The expiry date of the product is mentioned on the product label. In case of exceeding the expiry date, the product is no longer guaranteed in terms of treatment. Do not expose to UV-light and moisture.

Plastic and packaging waste

The product NextDent™ SG in its polymerized form is not environmentally harmful. Residual waste material in its liquid state should be delivered to a collection point for chemical waste material.

Cleaning and sterilization instructions

NextDent™ 3D-printing material should be cleaned with non chemical products. If disinfecting before intended use is required, an ethanol solution can be used. NextDent™ SG can be sterilized by making use of an autoclave or using gamma-ray sterilisation. Do not use a dishwasher or thermal disinfectant.

NextDent recommends the following method of sterilization:

- Place the surgical guide in a standard sterilization pouch
- Apply sterilization by placing the pouch containing the guide in an autoclave for 15 minutes at 121°C or 3 minutes at 138°C. Make sure no mechanical forces are applied to the guide during sterilization.
- Let the guide cool down to room temperature before using the guide. Make sure no mechanical forces are applied to the guide during cooling down.
- Please make sure that the surgical guide is fully post-cured before sterilisation! this is important with regard to form stability.

For post-curing procedure please see § Processing / Post-curing.

Delivery units

The product NextDent™ SG is available in the following packaging sizes: 1000 gr.

Explanation of symbols on labelling



CE mark



Batch number of product



Manufacturer



Keep away from sunlight



Consult instructions for use



Use-by date