

## A SLOVENIAN COMPANY IS OFFERING CALCIUM SILICATE-BASED CEMENT POWDER-LIKE DENTAL ROOT SEALER PRODUCT UNDER A DISTRIBUTION AGREEMENT

### Fields of use

Dentistry/Odontology, Stomatology, Micro- and Nanotechnology related to Biological sciences, Distributors, imports and wholesalers

### Current state of technology

Already on the market

### Type of cooperation

Distribution services agreement

### Intellectual property

Exclusive rights

### Developed by

Jožef Stefan Institute

### Contact

Center for Technology Transfer and Innovation

Phone: + 386 1 47 73 224

E-mail: [tehnologije@ijs.si](mailto:tehnologije@ijs.si)

Web site: <http://tehnologije.ijs.si/>

More information about the invention



### Summary

The Slovenian spin-out company is offering a synthetic, bioactive calcium silicate-based cement of high purity, a powder-like dental root sealer used in dentistry for endodontic treatment for a clinically effective dental root canal filling. The company is looking for distributors under a distribution services agreement.

### Description of the invention

The Slovenian spin-out company is offering a calcium silicate-based cement (CSC), a powder-like dental root sealer used in dentistry for endodontic treatment to permanently fill the root canal system. The root sealer is intended to permanently fill the root canal system in endodontic therapy. It is intended for classical and the most widely spread cold lateral condensation-obturation technique, as an apical plug before the root canal filling with warm gutta-percha in case of the wide apex of non-vital teeth, for the repair of root perforations during root canal therapy or as a consequence of internal resorption, as a pulp capping material.

Endodontic treatment consists of several procedures, starting with making adequate access preparation to reach the pulp chamber and to locate the root canal orifices, which is followed by chemo-mechanical debridement of root canals. The final step of endodontic treatment is three-dimensional obturation of root canals where the use of offered silicate-based cement as biocompatible root sealer is indicated.

The cement powder consists of fine hydrophilic particles that set in the presence of moisture. Hydration of powder creates a colloidal gel, a paste-like slurry that solidifies and form a strong impermeable seal.

The cement powder, registered as medical device, when in operation, doesn't require any additional accessories since it operates as a standalone product, sealing the apical opening and root end of avital teeth, i.e., serving as obturation agent of the endodontically treated teeth.

The spin-out company brings together scientists of leading Slovenian scientific research institute, experts and young researchers from various complementary fields of science: chemistry, technology, physics, materials science and mineralogy. Their basic and applied research includes ceramic materials, intermetallic alloys and minerals. To answer the drawbacks of existing solutions on the market such as poor handling properties and long setting time, the scientists have developed a non-toxic, biologically-active, and cheaper endodontic repair cement with improved handling properties, shorter setting time, and minimal post-treatment complications such as discolouration.



The CE certificate for medical devices (Class IIa medical device) and the ISO 13485 standard, which defines the quality management system for medical device manufacturing, have been acquired. The company manufactures the material in small scale for customers in Slovenia. First distribution partners are already cooperating with the company and the product is available to Slovenian dental clinics. Company wants to go international.

Partners are sought for distribution of the brand-named product internationally, to dental professionals/doctors, under a distribution services agreement. Potential partners should already have experiences in the distribution of dental products.

### Main Advantages

Features:

- Biocompatible permanent calcium silicate-based cement (CSC).
- Increased pH values (antibacterial response).
- Fast setting time.
- Bioactive.
- Excellent handling due to high flowability.
- Excellent radioopacity based on biocompatible radioopacifier.

### Partner Sought

Partners are sought for distribution of the brand-named product internationally, to dental professionals/doctors, under a distribution services agreement. Potential partners should be familiar with dental products for professional use. They need to have experiences in the distribution of complementary products.