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K042548

**SAFE MEDICAL DEVICES ACT OF 1990 SUMMARY OF SAFETY AND EFFECTIVENESS.**  
**October 8, 1998.**

**Submitter:** Jin Kim, CeraSys, Inc. 11761 Telegraph Rd., Santa Fe Springs, CA 90670

**Classification names and numbers:** Porcelain powder for clinical use, 76EIH

**Common / Usual name:** Dental restorative material, porcelain powder / blocks

**Proprietary name:** CeraSys - ZR

**Establishment registration number:** In process

**Classification:** These are class II devices, intended to restore carious lesions or structural defects in teeth, described in CFR 872.3690. Like porcelain powder, this device is delivered in final form for use by the dentist, and is ceramic in nature. Porcelain powder is described in CFR 872.6660.

**Device description:** CeraSys - ZR is a zirconium dioxide-yttrium oxide ceramic, capable of machining by modern methods. The dentist prepares the tooth surfaces, sends a properly prepared impression of those surfaces to the dental laboratory where it is scanned and an inlay or onlay prepared by modern computerized lathe methods and returned to the dentist. The dentist then finally prepares the tooth surfaces involved and cements (lutes) the inlay or onlay in place with standard dental adhesive materials. CeraSys - ZR ceramic is an alternative to gold, amalgam, porcelain, or composite filling materials, except that their application more closely resembles gold inlays or porcelain inlays, onlays or veneers in that they are actually prepared in a dental laboratory. The material is radio-opaque, for ready visualization.

**Substantial equivalence:** Similar to devices currently on the market approved through the 510K process. CeraSys - ZR is similar to **Cercon K-013230, CynoVad Zirkon K-023327, Denzir K-984201, 3M ESPE AG K-011394, Austenal K-001815**

The 510K "Substantial equivalence" decision-making process (detailed) from ODE Guidance Memorandum #86-3 was followed as described below:

1. These products have the **same intended use**, to be luted / cemented permanently into place as inlays, and onlays.
2. The **technological characteristics** for this product are similar to those for the predicate devices and those currently on the market except for differences in methods of use. The technological features, although distinct, have the same intended use as the devices listed as equivalent.
3. Descriptive information provided shows that the material from which CeraSys - ZR are made are well established as the basis of many different kinds of hip implants, requiring significantly greater forces than in the mouth. CeraSys - ZR is equivalent in use and properties devices described in K-973221, K-971869, K-943168

4. Zirconia has been repeatedly tested throughout the medical and dental industry and research and has shown Zirconia to be highly biocompatible. The luting / cementing materials discussed in this summary are traditional materials well known to the dental industry.

**Indications:** CeraSys - ZR is used in the manufacture of dental prosthetics.

CeraSys, Inc. proposes that the materials distributed within the United States be labeled:

“Caution: Federal (US) law restricts the sale of this device to, or on the order of, licensed professionals”

**(End Of Summary)**



Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

DEC - 3 2004

Mr. Jin Kim  
CFO (Chief Financial Officer)  
CeraSys, Incorporated  
11761 Telegraph Road  
Santa Fe Springs, California 90670

Re: K042548  
Trade/Device Name: CeraSys ZR  
Regulation Number: 872.6660  
Regulation Name: Porcelain Powder for Clinical Use  
Regulatory Class: II  
Product Code: EIH  
Dated: September 15, 2004  
Received: September 20, 2004

Dear Mr. Kim:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

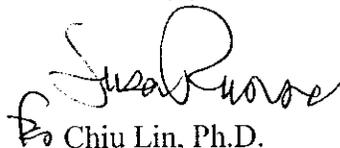
If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Office of Compliance at (240) 276-0115. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its Internet address <http://www.fda.gov/cdrh/dsma/dsmamain.html>

Sincerely yours,



Chiu Lin, Ph.D.

Director

Division of Anesthesiology, General Hospital,

Infection Control and Dental Devices

Office of Device Evaluation

Center for Devices and

Radiological Health

Enclosure

## Indications for Use

510(k) Number (if known): K042548

Device Name: CeraSys ZR

### Indications for Use:

Intended to restore carious lesions or structural defects in teeth.  
It is intended for use in cavities Classes I, II, V (Inlays & Onlays)  
and as a restorative material intended for veneers, crowns, and bridges.

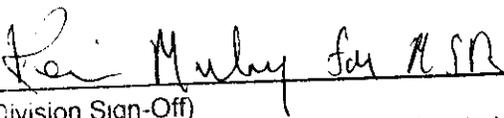
Prescription Use  AND/OR  
(Part 21 CFR 801 Subpart D)

Over-The-Counter Use \_\_\_\_\_  
(21 CFR 807 Subpart C)

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF  
NEEDED)

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Concurrence of CDRH, Office of Device Evaluation (ODE)



(Division Sign-Off)  
Division of Anesthesiology, General Hospital,  
Infection Control, Dental Devices

510(k) Number: K042548