K123631

GC AMERICA INC.
3737 WEST 127TH STREET
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Section 5 – 510(k) Summary

JUL 2 3 2013

1. Submitter Information:

GC AMERICA INC.
3737 W. 127th Street
Alsip, IL 60803

Contact Person: Mark Heiss, D.D.S.
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Date Prepared: November 21, 2012

2. Device Name:

Proprietary Name: MFP-051
Classification Name: Tooth shade resin material
Device Classification: Class II, 872.3690
Product Code: EBF

3. Predicate Devices:

Company	Device	510(k) No.	Date Cleared
GC America Inc.	GC KALORE (GDLS-200)	K082434	11/14/2008
GC AMERICA, INC	G-aenial Universal Flo (GCUC-505)	K091388	07/22/2009
KERR CORPORATION	PREMISE	K032921	11/13/2003
Ivoclar Vivadent. Inc.	Tetric Evoceram	K042819	11/09/2004

4. Description of Device:

MFP-051 is a light-cured, nano-filled radiopaque composite resin filled in either a syringe or unitip. The device is a universal type. The material is available in 17 shades. The device is used for the restorations of both anterior and posterior teeth.

5. Indications for Use:

1. Direct restorative for class I, II, III, IV, V cavities.
2. Direct restorative for wedge-shaped defects and root surface cavities.
3. Direct restorative for veneers and diastema closure.

6. Technological characteristics:

All the components of the applicant device, MFP-051, have already been used in the predicate devices. PREMISE contains barium glass filler, which is one of the components in the proposed device. All the other components are included in GC KALORE (GDLS-200) and G-aenial Universal Flo (GCUC-505).

The curing mechanism of the predicates is polymerization of uncured methacrylate ester monomers. This reaction is caused by photo initiator system.

The applicant device also shows equivalence in flexural strength, water sorption and solubility, which indicate the stability of materials in oral environment.

7. Substantial equivalence:
The applicant device complies with all the requirements of ISO 4049: 2009 (Dentistry - Polymer-based restorative materials).

The curing mechanism of the new and predicate devices is substantially equivalent in principle. Therefore, the new and predicate devices are the same in function, and similar in composition and intended use. This supports that the compatibility and safety of the applicant device are substantially equivalent to the predicate devices.

	Applicant device	Comparative device			
Trade name	MFP-051	GC KALORE(GDLS-200)	PREMISE	Tetric Evoceram	G-aenial Universal Flo (GCUC-505)
Product category	Light-cured radiopaque universal composite restorative	Light-cured radiopaque universal composite restorative	Universal nano-filled composite	Light-curing, universal nano-hybrid composite material for high-end standard restorations in the anterior and posterior regions	UNIVERSAL LIGHT-CURED RADIOPAQUE FLOWABLE COMPOSITE
Company	GC Corporation	GC Corporation	KERR CORPORATION	Ivoclar Vivadent. Inc.	GC Corporation
510(k) No.	-	K082434	K032921	K042819	K091388
Indications for use	1. Direct restorative for class I, II, III, IV, V cavities. 2. Direct restorative for wedge-shaped defects and root surface cavities. 3. Direct restorative for veneers and diastema closure.	GDLS is a light-cured micro-filled radiopaque resin for the restoration of both anterior and posterior teeth. GDLS-200 consists of two delivery systems, Unitip(capsules for single dose) and Syringes. The GDLS-200 system is available in a variety of shades.	Premise is a dental composite restorative material intended to be used in all classes of cavities.	• Anterior restorations(Class III, IV) • Class V restorations (cervical caries, root erosion, wedge-shaped defects) • Restorations in the posterior region (Class I and II) • Veneering of discolored anterior teeth • Splinting of mobile teeth • Repair of composite and ceramic veneers	1. Restoration of class I, II, III, IV, V cavities. 2. Restoration of root surface caries 3. Restoration of deciduous teeth 4. Filling tunnel shaped cavities 5. Sealing hypersensitive areas 6. Liner/base/filling in cavity undercuts 7. Sealant 8. Splinting mobile teeth 9. Additions to composite restorations
Product description	MFP-051 is a light cured nano-filled radiopaque composite resin filled in a syringe and unitip. The device is used for the restorations of both anterior and posterior teeth	GC KALORE(GDLS-200) is a light cured nano-filled radiopaque composite resin filled in a syringe and unitip. The device is used for the restorations of both anterior and posterior teeth	PREMISE is a universal nanofilled restorative material that offers superior esthetics, handling and low polymerization shrinkage all in one system.	Tetric EvoCeram is a state-of-the-art, light-curing, radiopaque, nano-hybrid composite for the direct restorative therapy. Tetric EvoCeram cures with light in the wavelength range of 400–500 nm (blue light).	G-aenial Universal Flo is a light cured nano-filled radiopaque composite resin filled in a syringe topped with a needle tip. The device is a flowable composite resin of normal consistency. The material is available in 17 shades.

	Applicant device	Comparative device			
Trade name	MFP-051	GC KALORE(GDLS-200)	PREMISE	Tetric Evoceram	G-aenial Universal Flo (GCUC-505)
Components	* Composite filler * Barium glass * Urethane dimethacrylate (UDMA) * Dimethacrylate * Silicon dioxide * Initiator * Pigment	* Composite filler (with Lanthanoid Fluoride) * Strontium/Barium glass * Fluoro-alumino-silicate glass * Urethane dimethacrylate (UDMA) * Dimethacrylate * Silicon dioxide * Photo initiator * Pigment	* Uncured Methacrylate Ester * Mineral fillers * Activators * Stabilizers	<u>The monomer matrix:</u> Dimethacrylates <u>The fillers:</u> barium glass, ytterbium trifluoride, mixed oxide and prepolymer <u>Additional contents:</u> additives, catalysts, stabilizers and pigments	Triethyleneglycol dimethacrylate, Di-2-Methacryloyloxyethyl 2,2,4-Trimethylhexamethylene dicarbamate (Urethane dimethacrylate), Bisphenol A polyethoxy methacrylate (Bis-MEPP), Strontium Glass Ytterbium trifluoride Campherquinone 2,4,6-Trimethylbenzoyldiphenylphosphine oxide Ethyl p-Dimethylaminobenzoate 2,4-Dimethyl-6,9-tert-butyl phenol 2-(2-Hydroxy-5-methylphenyl)-2H-benzotriazole
Instructions for use	1. Shade Selection 2. Cavity Preparation 3. Bonding Treatment 4. Placement 5. Contouring before Light Curing 6. Light Curing 7. Finishing and Polishing	1. Shade Selection 2. Cavity Preparation 3. Bonding Treatment 4. Placement 5. Contouring before Light Curing 6. Light Curing 7. Finishing and Polishing	1. RECOMMENDATIONS ON PROPER BONDING 2.PLACEMENT OF PREMISE COMPOSITE * Select the desired shade(s). * After placing an increment, stroke the composite to ensure marginal adaptation. * Light cure each increment for 40 seconds. * When multiple surfaces are available, cure each surface for this recommended time.	1. Shade Selection 2. Isolation 3. Cavity Preparation 4. Pulp protection / Base 5. Matrix / Interdental wedge 6. Conditioning / Application of the bonding agent 7. Application of Tetric EvoCeram 8. Finishing / Checking the occlusion / Polishing	1. Preparations 2. Shade Selection 3. Cavity Preparation 4. Bonding treatment 5. Placement of G-ænial Universal Flo 6. Light Curing 7. Finishing and Polishing

Fine glass filler is filled in the applicant device compared with predicate devices.
The applicant device shows superior gloss retention after operation compared with predicate devices.
The curing mechanism of the new and predicate devices is substantially equivalent in principle.
The new and predicate devices are the same in function, and similar in composition and intended use.
The applicant device uses barium glass instead of strontium glass (GC Kalore)
The applicant device uses a higher filler content (by weight) 70.5% vs. 41% for GC Kalore
The application device device contains BIS-GMA and does not contain

8. Substantial equivalence:
The applicant device complies with all the requirements of ISO 4049: 2009 (Dentistry - Polymer-based restorative materials). The curing mechanism of the new and predicate devices is substantially equivalent in principle. Therefore, the new and predicate devices are the same in function, and similar in composition and intended use. This supports that the compatibility and safety of the applicant device are substantially equivalent to the predicate devices.

9. Shelf Life Evaluation and Storage Conditions:
- Shelf Life 3 years
- Store in a cool and dark place. 4-25°C (39.2 - 77.0°F)

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
10903 New Hampshire Avenue
Document Control Center - WO66-G609
Silver Spring, MD 20993-0002

July 23, 2013

GC America, Incorporated
Dr. Mark Heiss
Director, Regulatory & Academic Affairs and Professional Relations
3737 West 127th Street
ALSIP IL 60803

Re: K123631
Trade/Device Name: MFP-051
Regulation Number: 21 CFR 872.3690
Regulation Name: Tooth Shade Resin Material
Regulatory Class: II
Product Code: EBF
Dated: June 20, 2013
Received: June 21, 2013

Dear Dr. Heiss:

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. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to 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); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); 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.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

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) 796-7100 or at its Internet address http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm.

Sincerely yours,

Kwame Ulmer, M.S.
Acting Division Director
Division of Anesthesiology, General Hospital,
Respiratory, Infection Control and
Dental Devices
Office of Device Evaluation
Center for Devices and
Radiological Health

Enclosure

Section 4 – Indications for Use Statement

Indications for Use

510(k) Number (if known): K123631

Device Name: MFP-051

Indications for Use:

1. Direct restorative for class I, II, III, IV, V cavities.
2. Direct restorative for wedge-shaped defects and root surface cavities.
3. Direct restorative for veneers and diastema closure.

Prescription Use X (Part 21 CFR 801 Subpart D) AND/OR Over-The-Counter Use _____ (21 CFR 801 Subpart C)

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

Concurrence of CDRH, Office of Device Evaluation (ODE)

Sheena A. Green -S
2013.07.22 13:54:45 -04'00'
for M. Susan Runner, DDS, MA

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

510(k) Number: K123631