



Food and Drug Administration
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BioSphere Medical, S.A.
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June 21, 2017

Re: DEN160040
Embosphere Microspheres
Evaluation of Automatic Class III Designation – De Novo Request
Regulation Number: 21 CFR 876.5550
Regulation Name: Prostatic artery embolization device
Regulatory Classification: Class II
Product Code: NOY
Dated: August 3, 2016
Received: August 5, 2016

Dear Alix Fonlladosa:

The Center for Devices and Radiological Health (CDRH) of the Food and Drug Administration (FDA) has completed its review of your De Novo request for classification of the Embosphere Microspheres, a prescription device under 21 CFR Part 801.109 that is indicated for the following:

Embosphere Microspheres are indicated for use in embolization of arteriovenous malformations, hypervascular tumors, including symptomatic uterine fibroids, and prostatic arteries for symptomatic benign prostatic hyperplasia (BPH).

FDA concludes that this device should be classified into class II. This order, therefore, classifies the Embosphere Microspheres, and substantially equivalent devices of this generic type, into class II under the generic name, prostatic artery embolization device.

FDA identifies this generic type of device as:

Prostatic artery embolization device. A prostatic artery embolization device is an intravascular implant intended to occlude the prostatic arteries to prevent blood flow to the targeted area of the prostate, resulting in a reduction of lower urinary tract symptoms (LUTS) related to benign prostatic hyperplasia (BPH). This does not include cyanoacrylates and other embolic agents which act by *in situ* polymerization or precipitation, or embolization devices used in neurovascular applications (see 21 CFR 882.5950).

Section 513(f)(2) of the Food, Drug and Cosmetic Act (the FD&C Act) was amended by section 607 of the Food and Drug Administration Safety and Innovation Act (FDASIA) on July 9, 2012. This new law provides two options for De Novo classification. First, any person who receives a "not substantially equivalent" (NSE) determination in response to a 510(k) for a device that has not been previously classified under the Act may, within 30 days of receiving notice of the NSE determination, request FDA to make a risk-based classification of the device under section 513(a)(1) of the Act. Alternatively, any person who determines that there is no legally marketed device upon which to base a determination of substantial equivalence may request FDA to make a risk-based classification of the device under section 513(a)(1) of the Act without first submitting a 510(k). FDA shall, within 120 days of receiving such a request, classify the device. This classification shall be the initial classification of the device. Within 30 days after the issuance of an order classifying the device, FDA must publish a notice in the **Federal Register** classifying the device type.

On August 5, 2016, FDA received your De Novo requesting classification of the Embosphere Microspheres into class II. The request was submitted under section 513(f)(2) of the FD&C Act. In order to classify the Embosphere Microspheres into class I or II, it is necessary that the proposed class have sufficient regulatory controls to provide reasonable assurance of the safety and effectiveness of the device for its intended use.

After review of the information submitted in the De Novo request, FDA has determined that the Embosphere Microspheres indicated for use in “embolization of arteriovenous malformations, hypervascular tumors, including symptomatic uterine fibroids, and prostatic arteries for symptomatic benign prostatic hyperplasia (BPH),” can be classified in class II with the establishment of special controls for class II. FDA believes that class II (special) controls provide reasonable assurance of the safety and effectiveness of the device type. The identified risks and mitigation measures associated with the device type are summarized in Table 1.

Table 1 – Identified Risks to Health and Mitigation Measures

Identified Risk	Mitigation Method
Adverse tissue reaction	Biocompatibility evaluation
Infection	Sterilization validation Shelf-life validation Non-clinical performance testing Labeling
Non-target ischemia	Clinical data Non-clinical performance testing Labeling
Urinary retention	Labeling
Post-prostatic artery embolization syndrome (nausea, vomiting, regional pain, non-infectious fever, minor hematuria or hematochezia)	Labeling

In combination with the general controls of the FD&C Act, the prostatic artery embolization device is subject to the following special controls:

1. The device must be demonstrated to be biocompatible.
2. Non-clinical performance testing must demonstrate that the device performs as intended under anticipated conditions of use. The following performance characteristics must be tested:
 - (i) Evaluation of suitability for injection through catheters intended for use in embolization; and
 - (ii) Evaluation of the size distribution of the device.
3. Performance data must support the sterility and pyrogenicity of the device.
4. Performance data must support the shelf life of the device by demonstrating continued sterility, package integrity, and device functionality over the identified shelf life.
5. Clinical data must evaluate post-embolization damage due to non-target embolization under anticipated use conditions.
6. The labeling must include:
 - (i) specific instructions on safe device preparation and use;
 - (ii) the device shelf life;
 - (iii) data regarding urinary retention; and
 - (iv) data regarding post-prostatic artery embolization syndrome.

In addition, this is a prescription device and must comply with 21 CFR 801.109.

Please be advised that FDA's decision to grant this De Novo request does not mean that FDA has made a determination that your device complies with other requirements of the FD&C Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the FD & C 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 FD & C Act); 21 CFR 1000-1050.

A notice announcing this classification order will be published in the **Federal Register**. A copy of this order and supporting documentation are on file in the Dockets Management Branch (HFA-305), Food and Drug Administration, 5630 Fishers Lane, Room 1061, Rockville, MD 20852 and are available for inspection between 9 a.m. and 4 p.m., Monday through Friday.

As a result of this order, you may immediately market your device as described in the De Novo request, subject to the general control provisions of the FD&C Act and the special controls identified in this order.

If you have any questions concerning this classification order, please contact Benjamin Fisher, Ph.D. at (301) 796-0245.

Sincerely,

Angela C. Krueger
Deputy Director for Engineering and Science Review (Acting)
Office of Device Evaluation
Center for Devices and Radiological Health