

SEP 25 2003

K032497

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Micro Therapeutics, Inc.

Special (510(k), Sapphire Detachable Coil System, VDS™ Tension Safe

### 510(k) Summary

<b>Trade Name:</b>	Sapphire Detachable VDS™ Tension Safe Coil System
<b>Generic Name:</b>	Artificial Embolization Coil
<b>Classification:</b>	Class III, 21 CFR 882.5950
<b>Submitted By:</b>	Micro Therapeutics, Inc. 2 Goodyear Irvine, California 92618
<b>Contact:</b>	Florin Truuvert

#### Predicate Device:

Number	Description	Predicate For	Clearance Date
K993418	Sapphire Detachable Coil System	Sapphire VDS Coil	July 21, 2003

#### Device Description

The Sapphire Detachable VDS™ Tension Safe Coil is manufactured from a platinum alloy wire which is first wound into primary coil and then formed into a secondary helical shape. The VDS Tension Safe has multiple coil segments with polymer “cap” at each segment ends, integrated into one coil system. The coil is welded to a positioning wire, which consist of ground stainless steel core wire with a stainless steel coil laser welded at the distal end and a Teflon outer jacket. The coil is detached by the battery operated power supply (SDS), which dissolves a small detachment element between the embolization coil and the positioning wire.

#### Indication For Use

The Sapphire Detachable Coils are intended for the endovascular embolization of intracranial aneurysms that – because of their morphology, their location, or the patient’s general medical condition – are considered by the treating neurosurgical team to be a) very high risk for management by traditional operative techniques, or b) be inoperable.

Micro Therapeutics, Inc.

Special (510(k), Sapphire Detachable Coil System, VDS™ Tension Safe

**Verification and Test Summary Table**

<b>Bench Testing</b>	<b>Sapphire Fibered Coils</b>
Coil Deformation	Meet established acceptance criteria
Ease of Delivery/Coil Frictional Characteristics	Meet established acceptance criteria
Reliability After Fatigue & Premature Detachment	Meet established acceptance criteria
Tensile Strength of Coil & Detachment Zone	Meet established acceptance criteria
Detachment Time	Meet established acceptance criteria
Particulate Generation	Meet established acceptance criteria
Physical Dimensions	Meet established acceptance criteria
Radiopacity	Meet established acceptance criteria
Aging and Shelf Life (6 months)	Meet established acceptance criteria

**Summary of Substantial Equivalence**

The data presented in this submission demonstrates the technological similarity and equivalency of the Sapphire VDS Tension Safe coils compared with the predicate device Sapphire VDS standard coils.

The two devices have the same intended use,

- Use the same operating principle,
- Incorporate the same basic design,
- Have the same Intended Use,
- Are packaged and sterilized using the same materials and processes.

In summary, the Sapphire VDS Tension Safe coils described in this submission are, in our opinion, substantially equivalent to the predicate device.



SEP 25 2003

Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

Ms. Florin Truuvert  
Manager, Regulatory Affairs  
Micro Therapeutics, Inc.  
2 Goodyear  
Irvine, California 92618

Re: K032497

Trade/Device Name: Sapphire Detachable VDS™ Tension Safe Coil System  
Regulation Number: 21 CFR 882.5950  
Regulation Name: Artificial embolization device  
Regulatory Class: III  
Product Code: HCG  
Dated: August 11, 2003  
Received: August 26, 2003

Dear Ms. Truuvert:

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.

Page 2 - Ms. Florin Truuvert

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 (301) 594-4659. 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,

*Miriam C. Provost*  
for Celia M. Witten, Ph.D., M.D.  
Director  
Division of General, Restorative  
and Neurological Devices  
Office of Device Evaluation  
Center for Devices and Radiological Health

Enclosure

K03 2497

## Indications for Use Statement

510(k) Number (if known): \_\_\_\_\_

Device Name: Sapphire VDS™ Tension Safe Detachable Coil System

### Indications for Use:

#### Sapphire Detachable Coils

The Sapphire Detachable Coils are intended for the endovascular embolization of intracranial aneurysms that – because of their morphology, their location, or the patient’s general medical condition – are considered by the treating neurosurgical team to be a) very high risk for management by traditional operative techniques, or b) be inoperable.

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

\_\_\_\_\_  
Concurrence of CDRH, Office of Device Evaluation (ODE)

Prescription Use \_\_\_\_\_ OR Over the Counter Use \_\_\_\_\_  
(Per 21 CFR 801.109)

Miriam C. Provost  
(Division Sign-Off)  
Division of General, Restorative  
and Neurological Devices

510(k) Number K032497