Onyx™ Liquid Embolic System

FOR PERIPHERAL EMBOLIZATION

The Onyx™ Liquid Embolic System is an ethylene vinyl alcohol (EVOH) copolymer dissolved in dimethyl sulfoxide (DMSO) for peripheral embolization.

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Indications, Safety, and Warnings

Overview

The Onyx™ Liquid Embolic System (LES) is an ethylene vinyl alcohol (EVOH) copolymer that provides complete filling and distal penetration[1] of peripheral lesions. Its non-adhesive properties permit more distal nidus embolization without significant risk of catheter entrapment, while higher viscosities allow for controlled deployment.[2]

Indications

Onyx™ 18 and 34 LES: Embolization of lesions in the peripheral vasculature, including arteriovenous malformations, and hypervascular tumors.

Onyx™ 34L LES: Embolization of lesions in the peripheral vasculature, including endoleaks, arteriovenous malformations, portal veins, bleeding, and tumors.

Product details

- Precipitation occurs on contact with aqueous solution (e.g., blood, water, contrast)
- Flows like lava and solidifies from the outside in as solvent diffuses away
- Delivers in a cohesive manner, forming a spongy, coherent embolus

Controlled delivery

- Slow, controlled injection and delivery method
- Ability to start and stop injections (pauses should not exceed two minutes)
- Cohesive deposition and delivery
- Excellent visibility[3]
- Controlled angiography during embolic injection

Formulations

Onyx™ 18 and 34 LES for peripheral use:

- Onyx™ 18 LES (6% EVOH, viscosity of 18 cSt): travels more distally and penetrates deeper into the targeted lesion due to its lower viscosity compared to Onyx™ 34 (i.e., peripheral AVM nidus)
- Onyx™ 34 LES (8% EVOH, viscosity of 34 cSt): has higher viscosity for more control in higher flow and large fistulous components

Onyx™ 34L LES for peripheral use:

- 8% EVOH, viscosity of 34 cSt
- Lower tantalum content than current version of Onyx™ 34 LES[4]
- Less streak artifact on CT with good visibility during injection[4]

Onyx™ 34L LES packaging with 6 mL vial

- 6 mL vial provides ease of use for large-volume treatments
- Requires less storage space than four 1.5 mL vials of Onyx™ 34 LES
- Environmentally friendly packaging made from 98% recyclable content

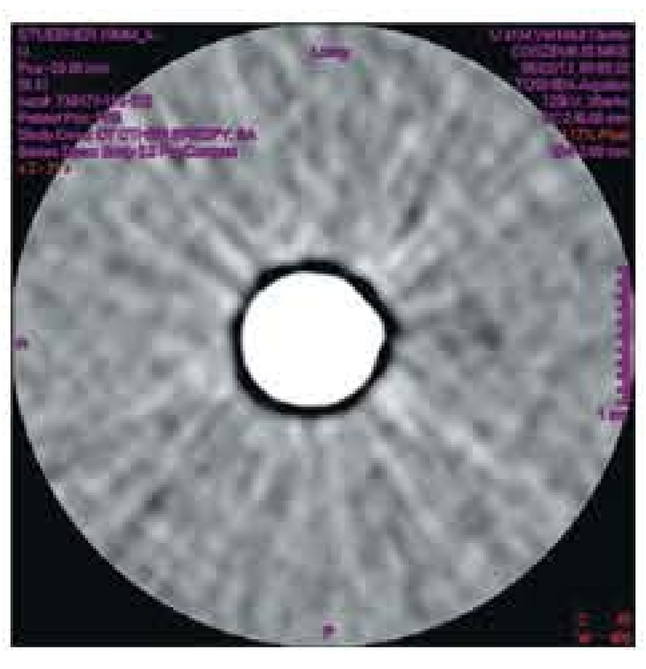
Onyx™ clinical summaries

- PeVD treatment with Onyx™ (2021) (.pdf) 163KB
- PeVD treatment with Onyx™ and Coils (2017) (.pdf) 137KB
- Lower GI bleeding (2014) (.pdf) 186KB
- Hemoptysis (2014) (.pdf) 135KB
- Upper GI bleeding (2018) (.pdf) 115KB
- Endoleaks Type II by direct puncture (2020) (.pdf) 194KB
- Endoleaks Type II (2020) (.pdf) 114KB
- Endoleaks Type II (2012) (.pdf) 127KB

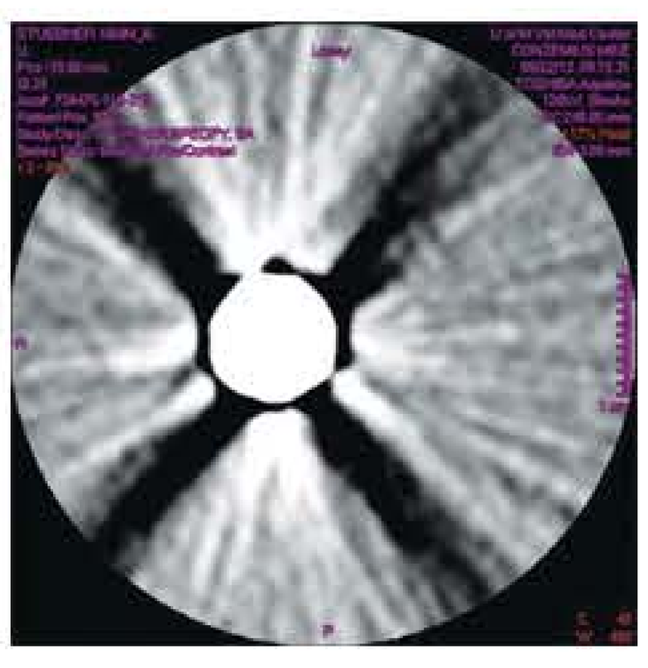
CT validation

Onyx™ 34L LES has less streak artifact on CT† with good visibility during injection in comparison to Onyx™ 34 LES.[4]

Onyx™ 34L LES in 10 mm vessel‡



Onyx™ 34 LES in 10 mm vessel‡



Model specifications

Onyx™ Liquid Embolic System

Product code	Onyx formulation
105-7200-060	Onyx 18 peripheral kit, 1.5 mL
105-7200-080	Onyx 34 peripheral kit, 1.5 mL
105-7315-080	Onyx 34L kit, 1.5 mL
105-7360-080	Onyx 34L kit, 6 mL

Onyx™ LES accessories

Product code	Onyx LES accessory
103-1205-001	Vortex-Genie®* 2 120 v/60 Hz with 1.5 mL vial attachment
103-1205-002	Vortex-Genie 2 240 v/50 Hz with 1.5 mL vial attachment
103-1205-100	Mixer attachment for 6 mL and 1.5 mL vials
103-1207	Syringe catheter interface adapter (20 units/box)
103-1203	1 mL luer-lock injector syringe (10 units/box)

Manuals and technical guides

The technical manual includes indications, warnings, precautions, MRI information, and directions for use. Find it in the product labeling supplied with each device.

Additional resources

Request more information

Contact us

Related page

- Peripheral embolization products

* ™Third-party brands are trademarks of their respective owners.

† CT artifact validation in vitro using a water phantom tank to simulate body tissue and synthetic vessel. Document TR_NV 11300 RevA.

‡ Images are property of Medtronic.

References

1 Urbano J, Manuel Cabrera J, Franco A, Alonso-Burgos A. Selective arterial embolization with ethylene-vinyl alcohol copolymer for control of massive lower gastrointestinal bleeding: feasibility and initial experience. *J Vasc Interv Radiol*. June 2014;25(6):839-846.

2 Yamada R, Uflacker A, Bourgeois A, Adams JD, Guimaraes M. *Embolization Therapy: Principles and Clinical Applications*. Philadelphia, PA: Wolters Kluwer; 2015:582.

3 Joseph S, Chadaga HC, Murali K. Endovascular Treatment of Cerebral AVM with Onyx - Initial Experience. *Interv Neuroradiol*. October 5, 2005;11(Suppl 1):171-178.

4 IFU 70721-001 Rev 01/13. 2 CT artifact validation in vitro using a water phantom tank to simulate body tissue and synthetic vessel. Document TR_NV 11300 Rev A 2013-08-20. All images property of Medtronic.