

FREQUENTLY ASKED QUESTIONS AVALON BIOMED™ NeoSEALER® EZFlo

FAQ – Avalon Biomed NeoSEALER® EZFlo Endodontic Sealer

CHOOSING A PRODUCT

What is NeoSEALER® EZFlo?	NeoSEALER EZFlo is a premixed bioactive bioceramic endodontic sealer consisting of an extremely fine, inorganic powder of tricalcium/dicalcium silicate in an organic liquid. The product is packaged ready-to-use. No mixing is required. NeoSEALER EZFlo is designed to set in vivo in the presence of moisture from the surrounding tissues.
What is the difference between NeoSEALER Flo and NeoSEALER EZFlo?	While both NeoSEALER Flo and NeoSEALER EZFlo contain the same bioactive bioceramic components, NeoSEALER EZFlo is designed and manufactured to consistently flow through the provided 29 ga NaviTip™ ensuring precise and controlled application to minimize extrusion past the apex. The improved syringe design includes a wing and a thumb pad for ease of dispensing while the NaviTip™ ensures minimal product waste. NeoSEALER EZFlo is ideal for Minimally Invasive Endodontic (MIE) procedures and both warm and cold lateral obturation techniques.
What are the indications for use?	 Obturation and sealing of root canals. Read IFU prior to use. To obtain, visit avalonbiomed.com
How does NeoSEALER EZFlo set?	• NeoSEALER EZFlo is formulated with a water-free organic liquid. NeoSEALER EZFlo sets in vivo. Setting begins in the presence of moisture from the apical tissues and dentinal tubules. • NeoSEALER EZFlo is different from our NeoMTA® 2, which is packaged as a powder and a gel and requires mixing. NeoMTA 2 begins setting when the powder and gel are mixed and continues in vivo.
What makes NeoSEALER EZFlo different from other bioactive bioceramic products?	• Contains MORE bioactive cement compared to other brands to ensure setting. • NeoSEALER EZFlo is TRULY versatile. It can be used for both warm and cold lateral obturation techniques. When heated, it will maintain its consistency to minimize any need for re-application. • The NaviTip™ has a flexible stainless-steel cannula to easily navigate curved canals and provide controlled delivery to the apex. • Syringe design allows for easy dispensing through a 29ga NaviTip™.
Is NeoSEALER EZFlo non-staining?	NeoSEALER EZFlo contains tantalite as the radiopacifier, which does not cause staining. NOTE: Not all white MTA's are considered non-staining. White MTAs that contain bismuth oxide as the radiopacifier (e.g. ProRoot White MTA) will cause staining.

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What makes NeoSEALER EZFlo different from resin-based materials that contain some MTA?	Unlike inert, resin-based materials containing some MTA,... NeoSEALER EZFlo is: • Bioactive: NeoSEALER EZFlo releases calcium and hydroxide ions from the MTA, promoting hydroxyapatite (HA) formation on the MTA surfaces to enhance sealing and support healing. • Formulated with pure tri/dicalcium silicate powder and a radiopacifier. • Dimensionally stable – unlike resin-based materials that shrink. • Biocompatible, non-cytotoxic. • Resin-free for maximum MTA concentration and maximum bioactivity. [Resin-based materials containing only <u>some</u> MTA-type cement have not consistently shown biocompatibility in cell cultures^{3,4}, demonstrating a toxicity that may be attributed to incomplete resin curing.] ³Adıgüzel M, Ahmetoğlu F, Eldeniz AÜ, Tekin MG, Göğebakan B. Comparison of cytotoxic effects of calcium silicate-based materials on human pulp fibroblasts Mehmet. <i>J Dent Res Dent Clin Dent Prospects</i>. 2019;13(4):241-246. ⁴Collado-González M, García-Bernal D, Oñate-Sánchez RE, et al. Cytotoxicity and bioactivity of various pulpotomy materials on stem cells from human exfoliated primary teeth. <i>Int Endod J</i>. 2017;50 Suppl 2:e19-e30.
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Is NeoSEALER EZFlo the same as Portland cement?	No. While both Portland cement and MTA contain tricalcium silicate, they are not the same. Portland cement is: • An impure industrial grade construction product • A coarse powder that sets slowly • NOT a medical device • NOT cleared by the FDA • NOT radiopaque • NOT a highly refined powder Portland cement cannot meet the international dental standards, including ISO 6876, ISO 9917-1 or ADA 57 requirements. All Avalon Biomed MTA-based products, including NeoSEALER EZFlo, meet all dental quality standards and are manufactured in Houston, TX USA in an FDA-registered factory certified to ISO 13485.
How radiopaque is NeoSEALER EZFlo?	NeoSEALER EZFlo has a radiopacity of ~5.5 mm Al equivalent. Increasing the radiopacity would lower the bioactive cement content and potentially compromise the product's ability to set.

PRODUCT PRESENTATION

What Kit sizes are available and how many tips are included with each kit?	Kit Size (gm)	NaviTip™	<i>*Every NeoSEALER EZFlo kit contains 15 or 30 NaviTips. These minimal waste tips ensure that product waste is minimized.</i>
	1.5	15	
	3	30	

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APPLICATION, WORKING & SETTING TIME; RETREATMENT

Can I use any dispensing tip with NeoSEALER EZFlo?	Any 29-gauge or larger dispensing tip designed with a luer-lock may be fitted to the NeoSEALER EZFlo syringe, however we recommend the smallest diameter tip used be a 29-gauge NaviTip™.
Do I need to completely dry the canals before applying NeoSEALER EZFlo?	NO. Moisture is required for setting of the sealer, supplied by the dentinal tubules and apical tissues. Clean & shape the canals and remove the smear layer. Remove pooled irrigants or excessive moisture from surrounding tissues with absorbent points.
What is the working time of NeoSEALER EZFlo?	Working time at room temperature is > 35 min. Setting begins in the presence of moisture provided by the surrounding tissues.
Is NeoSEALER EZFlo dimensionally stable?	Yes, unlike resin-based sealers NeoSEALER EZFlo is dimensionally stable and meets the ADA 57 standard: <i>ADA 57 std. <1% shrinkage & <0.1% expansion</i>
Is NeoSEALER EZFlo resorbable in the case of material extrusion into the periapical area?	NeoSEALER EZFlo is a non-cytotoxic, biocompatible paste. If overfilling occurs, it may not result in a significant inflammatory response. Resorption in the periapical tissue may occur over years. Caution should be exercised to NOT overfill the root canal forcing a large amount of sealer beyond the apex of the root. If a large amount of sealer is overfilled into the mandibular canal (inferior alveolar canal), the clinician should assess if the overfilled material should be removed according to state-of-the-art policy.
Can the NeoSEALER EZFlo be removed for re-treatment?	Yes. Use conventional instrumentation, including hand/rotary files and ultrasonic instrument tips, to remove NeoSEALER EZFlo if it was placed with one or more gutta percha points. Carrillo CA, Kirkpatrick T, Freeman K, Makins SR, Aldabbagh M, Jeong JW. Retrievability of Calcium Silicate-based Root Canal Sealers During Retreatment: An Ex Vivo Study. J Endod. 2022 Jun;48(6):781-786. doi: 10.1016/j.joen.2022.02.009. Epub 2022 Feb 25. PMID: 35219747.

CLEANUP AND STORAGE

What is the Shelf Life of NeoSEALER EZFlo?	- The product has a 2-year shelf life. - Store at room temperature for optimal handling (do not refrigerate). - To prevent hardening of the NeoSEALER EZFlo, immediately recap after each use. Store the syringe in the protective foil pouch provided.
Should I refrigerate the kit or its components?	NO. Store and use at room temperature (at or above 72°F/22°C) for optimal handling and control (DO NOT refrigerate). If NeoSEALER EZFlo is stored or used at a temperature below 55°F(13°C), it may be difficult to dispense. Restoring the product to room temperature will return the product to its original properties.
How do I clean instruments that have contacted NeoSEALER EZFlo?	Warm water may be used to clean instruments if the material has not hardened. If hardened clean with vinegar or other mild acid. NOTE: NeoSEALER EZFlo is a non-sterile product. Follow your established cleaning and sterilization procedures for instruments as appropriate.

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AVALON BIOMED™ NeoSEALER® EZ Flo

OTHER

Does Avalon Biomed sell any other premixed bioactive bioceramics?	Yes, Avalon Biomed also manufactures: • NeoSEALER® Flo, a bioactive bioceramic premixed sealer packaged with Flex Flo Tips®. • NeoPUTTY®, a premixed bioactive bioceramic Root & Pulp treatment paste packaged in a syringe. • NeoMTA® 2, a powder/gel hand mix product designed for 13 vital pulp and endodontic uses, including obturation and sealing.
Does Avalon Biomed sell a light-curing MTA product?	• Avalon Biomed does not manufacture a light-curing MTA. We prefer to maximize the concentration of bioactive powders in Avalon Biomed products and deliver them in a formula that allows the bioactive powders to readily hydrate and form $\text{Ca}(\text{OH})_2$ which promotes hydroxyapatite formation⁵. • Light-curable and dual-cure MTA products contain resins which dilute and inhibit the MTA's bioactivity. • Resins never cure 100%. Uncured resin may leave cytotoxic monomers in the MTA-resin matrix and in contact with the pulp. • Resins shrink during curing; they are not as dimensionally stable as MTAs. Avalon Biomed bioactive cements (MTAs) are dimensionally stable and meet the ADA 57 standard. ⁵ Lee, Y. Shin, S.O. Kim, H.S. Lee, H.J. Choi, J.S. Song, <i>Comparative Study of Pulpal Responses to Pulpotomy with ProRoot MTA, RetroMTA, and TheraCal in Dogs' Teeth</i>, J Endod 41(8) (2015) 1317-24.