



GOOD THINGS TAKE TIME, THE BEST TAKES A LITTLE LONGER.

The AAPD recommends fluoride varnish for use as a preventative adjunct to reduce the risk of caries¹ and the ADA supports the use of fluoride to both protect enamel and prevent cavities.² Enamelast™ fluoride varnish contains 5% sodium fluoride (2.26% fluoride ion), the only concentration currently recommended by the American Dental Association (ADA).³ In limited studies on varnishes with a lower concentration of 0.1% fluoride ion, no benefit has been shown.⁴

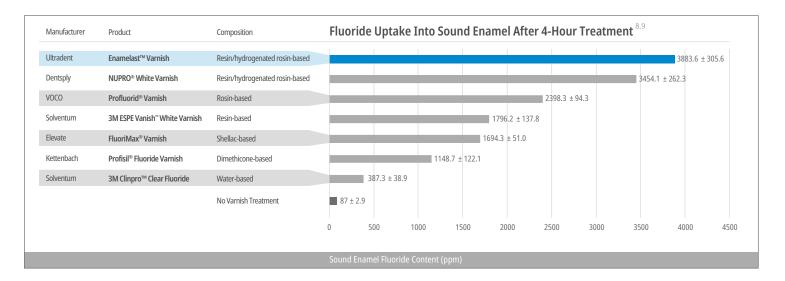
Fluoride concentration is a critical aspect of a varnish, but what really matters is if the fluoride gets transferred to the enamel. Thus, when choosing a fluoride varnish, it is important to evaluate enamel fluoride uptake in sound versus demineralized enamel. Studies have consistently demonstrated that demineralized enamel exhibits greater fluoride uptake from topical sources, such as fluoride varnishes, compared to sound enamel.⁵ This may be, at least in part, due to the increased porosity of demineralized enamel relative to lower porosity sound enamel.⁶

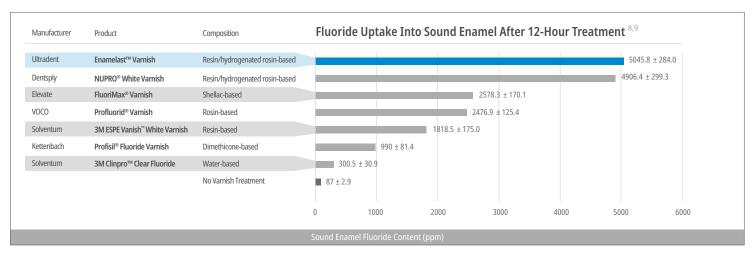
Given that fluoride uptake is more limited in sound enamel, claims of effective fluoride uptake based only on studies in demineralized/lesioned enamel do not provide a complete picture of enamel fluoride uptake. Gradual fluoride release from the varnish over longer periods of contact time may help increase fluoride uptake levels into sound enamel, despite its lower porosity nature. Enamelast fluoride varnish's superior retention promotes enhanced and sustained fluoride release.⁷ These longer contact periods lead to increased fluoride uptake.⁷

Third-party laboratory testing measured the fluoride uptake in sound enamel for several top fluoride varnishes at both 4 hours and 12 hours after application. Enamelast fluoride varnish achieved the greatest uptake in both tests. Notably, the highest fluoride uptake levels were achieved by durable resin/hydrogenated rosin-based formulas compared to alternatives such as shellac, dimethicone, or water-based varnishes.









Testing Method:

Fluoride uptake from fluoride varnish into sound enamel substrate was measured following a combination "Flow Model" and pH cycling treatment regimen. The "Flow Model" is a validated method that has shown to be a predictive in-vitro model for determining enamel fluoride uptake potential of fluoride containing varnishes observed clinically (based on independent clinical in situ trials). 10,11

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- 7. Rothen M, Ly K, Heacox G, Milgrom P. Furthering the use of topical fluoride. *Dimens Dent Hyg.* 2007;5(2):16–19.
- 8. McClure H. Fluoride Uptake into Sound Enamel Substrate Provided by Fluoride Varnishes and Resultant Surface Microhardness Effects via a Combination in Vitro Flow Model & PH Cycling Treatment Regimen Study Number 24-562. Therametric Technologies, Inc. Dental Product Testing Division; 2025.
- 9. McClure H. Fluoride Uptake into Sound Enamel Substrate Provided by Fluoride Varnishes and Resultant Surface Microhardness Effects via a Combination in Vitro Flow Model & PH Cycling Treatment Regimen Study Number 24-522. Therametric Technologies, Inc. Dental Product Testing Division; 2024.
- 10. Keefer T, Mcclure H, Stookey G, Schemehorn B. A validated in-vitro model for assessing EFU from fluoride varnishes. Presented at 2018 AADR/CADR Annual Meeting; March 23, 2018; Fort Lauderdale, FL.
- 11. Stookey G, Schemehorn B, Nuñez A, Carr W, Mcclure, J. An in-situ enamel fluoride uptake model for fluoride varnishes. Presented at 2018 AADR/CADR Annual Meeting; March 24, 2018; Fort Lauderdale, FL.

