ABSTRACT

Objective: To analyze total fluoride content (safety) and fluoride release (efficacy potential) of the probably most commonly used commercial varnishes. Methods: Total fluoride content of six varnishes (Duraphat, Cavity Shield, Enamel Pro, DuraShield, Vanish, and Ultradent) was determined in triplicates (0.15-0.20g) by dissolution of the samples in chloroform. After dissolution, water was added to extract the fluoride. The chloroform/water mixture was vigorously mixed three times to ensure complete extraction. Extracted fluoride was quantified using a fluoride specific electrode.

RESULTS

Total Fluoride Content (ppm)

Enamel Pro 273 ± 1.9
Duraphat 24194 ± 1155
Cavity Shield 21729 ± 46
DuraShield 19832 ± 116
Cavity Shield 19656 ± 76
Vanish 16618 ± 666
Ultradent 111 ± 5.1

% of Labeled Content (22600ppm)

Enamel Pro 109 ± 3.8
Duraphat 107 ± 5.1
Cavity Shield 96 ± 0.2
DuraShield 88 ± 0.5
Vanish 87 ± 0.3
Ultradent 74 ± 2.9

CONCLUSION

Significant variations in total fluoride content and fluoride release of varnishes were found among the studied varnishes suggesting that not all varnishes have similar levels of safety or efficacy.

REFERENCES