

# TOTAL FLUORIDE CONTENT OF POWDERED INFANT FORMULA ON THE THAI MARKET

Saowaros Kaophun<sup>1</sup>, Nattha Pattaravisitsate<sup>1</sup>, Anucha Sacharoen<sup>1</sup>  
and Praphasri Rirattanapong<sup>2</sup>

Research Office<sup>1</sup>, Department of Pediatric Dentistry<sup>2</sup>, Faculty of Dentistry, Mahidol  
University, Bangkok, Thailand

**Abstract.** Dental fluorosis can occur due to excessive fluoride intake among children aged 6-36 months. Powdered infant formula in Thailand does not show the fluoride content; therefore, we conducted this study to determine the fluoride content of powdered infant formula intended for children aged 6-36 months sold in Thailand. We determined the fluoride content of all 17 domestic and foreign powdered infant formula brands sold in Thailand in triplicate using the micro-diffusion method. The mean [ $\pm$ standard deviation (SD)] fluoride content of the studied brands was 0.308 ( $\pm$ 0.07) mgF/l (range: 0.236-0.394 mgF/l). There were no significant differences in the fluoride content among the mean fluoride content values among the 3 replicates of this study. The measured fluoride content in the studied brands contains less than the maximum fluoride content. This suggests the risk for developing dental fluorosis due to consumption of the examined powdered infant formula brands is low. However, if the formulas examined are mixed with fluoridated water, there is an elevated risk for developing dental fluorosis.

**Keywords:** dental fluorosis, total fluoride, powdered infant formula, Thailand

---

Correspondence: Nattha Pattaravisitsate, Research Office, Faculty of Dentistry, Mahidol University, 6 Yothi Road, Ratchathewi District, Bangkok 10400, Thailand.

Tel: +66 (0) 2200 7626

E-mail: nattha.pat@mahidol.ac.th