

# Low fluorine uneven toothpaste

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## Technology description

"Oral health is an integral part of personal health and is critical to maintaining quality of life. Specific oral health and wellness products are strongly recommended (WHO, 2010)."

Note: The composition of low fluorine and low pH gel for oral hygiene (toothpaste) can be used for the prevention and treatment of dental caries, fluorosis and fluorosis.

### Question

Dental caries and periodontal disease are considered as the main oral diseases by WHO. In industrialized countries, 60 to 90 per cent of school-age children suffer from dental caries (Petersen PE, 2002). Although fluoride has been used effectively since 1950, excessive intake during tooth development can lead to fluorosis (Whelton HP, 2004). The average fluorine intake of children aged 1.5-2 years was 30-80% higher than the recommended level, and the toothpaste intake was 55% (LimaYB, 2001).

Proposed solution: Maximum fluorine content is 750 ppm (reduced 48% F), and a gel oral hygiene (toothpaste) composition with pH 4.5 is preferred.

### Market potential

The global oral health market moved by approximately \$27.3 bi in 2006 and is expected to grow by 20 per cent annually (ABDI, 2009). Toothpaste sales accounted for 70% of the industry's revenue. Leading brands in the industry have a market capitalisation of more than \$1bi, with 2010 turnover of \$7.7 bi.

[Http://unesp.technologypublisher.com/files/nit-011-09--gel-ferricifricesade-com-floor.pdf](http://unesp.technologypublisher.com/files/nit-011-09--gel-ferricifricesade-com-floor.pdf)

## Advantages

- "liquid" formulations-allowing for enhanced dose control;
- The decrease of pH value is beneficial to the strengthening of glaze;
- 50% or more reduction in fluorine concentration (cost reduction).
- treatment of dental caries;
- Prevention and treatment of fluorosis;
- same or higher effect as commercial toothpaste;

## Institution

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