New Zealand changes rules for tooth-whitening products

In June, the Environmental Protection Authority (EPA) announced that restrictions will be placed on the sale of all tooth-whitening products containing more than 7 per cent hydrogen peroxide. In particular, products containing more than 7 per cent and up to 12 per cent hydrogen peroxide will only be available from a dentist, a registered oral health practitioner or a non-registered practitioner working under the supervision of a dentist.

However, products with concentrations of less than 7 per cent will continue to be freely available on the market.

Moreover, the EPA resolved that all tooth-whitening products containing hydrogen peroxide will have to carry safety warnings in the future, including a statement advising that the product is not recommended for children younger than 16.

“The EPA expects the industry to be ready to comply as soon as the new rules come into force, as the industry has had two years to prepare for the change,” said Andrea Eng, the EPA’s General Manager for Compliance.

The rules were amended in response to concerns raised by the Dental Council of New Zealand and the Ministry of Health that tooth whiteners containing hydrogen peroxide may cause irritation to gums, tooth sensitivity, and more severe damage when used excessively.

Food waste used to make composite

KUBANG KERIAN, Malaysia: Synthesising silica for use in dental nano-composites through the sol–gel process is considered a time-consuming and often dangerous method owing to the toxicity of the materials involved. Researchers from the School of Dental Sciences of Universiti Sains Malaysia claim to have developed a more cost-effective and environmentally friendly method to extract the vital substance from rice husks, the outer shell of rice grains.

In Malaysia alone, an estimated 0.5 million tons of this crop residue from the milling of rice are discarded annually. The global annual production is estimated to exceed 100 million tons, resulting in a vast amount of organic waste in South-East Asia particularly, where it is used as fertiliser and insulation material, among other applications.

With a silica content of 10 per cent, it could be a low-cost source for the production of silica nanoparticles, which are the main component of composite fillings used in dentistry, according to project leader Prof. Ismail Ab. Rahman from the school. He said that production costs could be reduced by almost two-thirds using his method compared with conventional synthesis of silica.

The first dental composite produced from silica components acquired from rice husks was presented by Rahman and his research team at the 24th International Invention, Innovation and Technology Exhibition in Kuala Lumpur, where it was awarded a silver medal, among 1,000 innovations from around the world.

Rahman said that the material could be ready for market launch by as soon as 2016 and after it has undergone thorough testing on animals and humans. According to him, the material can last in the mouth for up to ten years, a life expectancy comparable to commonly used metal fillings, such as amalgam, and other composite resins.