رتبهٔ دوم خارجی

Foreign Second Winner

Project Title:
A New and Novel Multifunctional Rubber Additive Based on Palm Oil Fatty Acid

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استفاده از اسیدهای چرب روغن نخل بعنوان مواد افزودنی نوین به کائوچو

محقق:
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کشور:
مالزی

دانشگاه:
ساینس مالزی

Abstract:

In the production of various rubber-based products, organic acids are employed in combination with metallic oxides to aid in the accelerator action. Currently, stearic acid is used as the commerical activator of choice. Studies carried out in the school of industrial technology, Universiti Sains Malaysia (USM) Minden, Penang, Malaysia show that the mixture of palm oil fatty acids shows promise as a replacement for commerical stearic acid in this application. Use of the palm oil fatty acids mixture possesses many advantages over stearic acid especially in costs. The price of palm oil fatty acids is far cheaper than that of commerical stearic acid sold in the market. The price of palm oil fatty acids is only RM 2.50 per kilogram compared to commerical stearic acid which is sold at RM 400.00 per kilogram. An innovative and new multifunctional rubber additive based on palm oil fatty acid was discovered. This novel multifunctional additive not only improves the mechanical property of rubber products, but also functions as an accelerator, processing aid, crosslinking and coupling agent. The cost of production of this new additive is low.