

Dika nut oil as base oil for lubricants — effect of processing conditions on physicochemical properties

Author(s): OA Abidakun, OA Koya

Abstract

The paper presents a report on the effect of processing conditions of Dika nut oil on its physicochemical properties and also on the assessment of the oil for use as biodegradable lubricant. The oil was expressed mechanically from coarsely ground kernel meals at 3 and 9 wt.% moisture content (wet basis), preheated at 75, 100 and 150 °C for 10, 20 and 30 min. The plots showed that the chemical properties of the oil had quadratic and linear relationships with the heating temperature and heating time, respectively. At 95% confidence level, the free fatty acid content, the saponification, the iodine and the acid values of the oil were significantly affected by various processing conditions. The processing conditions therefore showed significant influence on the physicochemical properties of the oil and consequently on its suitability for use as lubricant. Copyright © 2012 John Wiley & Sons, Ltd.

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