

Pembuatan gemuk bio foodgrade menggunakan thickener sabun kalsium kompleks

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Abstrak

Pada penelitian ini, telah dibuat gemuk bio food grade berbasis turunan minyak kelapa sawit menggunakan thickener sabun kalsium kompleks, yang merupakan campuran sabun Ca-asetat dan Ca-hidroksi stearat dengan variasi rasio mol sabun Ca-asetat/Ca-hidroksi stearat = (0-6). Gemuk tersebut dibuat dengan tahapan saponifikasi di reaktor batch tertutup skala pilot (5kg), pendinginan di crystalizer dan homogenisasi di homogenizer. Parameter uji pelumas gemuk yang dilakukan yaitu uji dropping point (ASTM D-566), uji penetrasi (ASTM D-217), dan uji anti aus four ball (ASTM D-4172). Gemuk terbaik yang dihasilkan memiliki dropping point 324°C, pada rasio mol Ca-asetat/Ca-hidroksi stearat 5:1.

.....In this research, bio food grade grease based on derivative of palm oil by using calcium complex soap as thickening agent is synthesized. Grease thickener is a mixture of Ca-acetate and Ca-hydroxy stearate with mol ratio Ca-acetate/Ca-hydroxy stearate (0-6). Grease is synthesized in pilot scale closed batch reactor (5 kg), continued by cooling in crystalizer, and homogenizing in homogenizer. Grease performance tests done on greases in this research are dropping point test (ASTM D-566), penetration test (ASTM D-217), and four ball anti wear test (ASTM D-4172). The best grease product is resulted from mol ratio Caacetate/Ca-hydroxy stearate 5:1.