

## Characterization and effect on skin hydration of engkabang-based emulsions

### ABSTRACT

Formulations containing engkabang fat and engkabang fat esters, F10 and E15 respectively were prepared using a high-shear homogenizer, followed by a high-pressure homogenizer. Both formulations were stable at room temperature, at 45 degrees C, and after undergoing freeze-thaw cycles. The particle sizes of F10 and E15 after high pressure were 115.75 nm and 148.41 nm respectively. The zeta potentials of F10 and E15 were -36.4 mV and -48.8 mV respectively, while, the pH values of F10 and E15 were 5.59 and 5.81 respectively. The rheology of F10 and E15 showed thixotropy and pseudoplastic behavior respectively. There were no bacteria or fungal growths in the samples. The short-term moisturizing effect on 20 subjects analyzed by analysis of variance (ANOVA), gave p-values of  $7.35 \times 10^{-12}$  and  $2.77 \times 10^{-15}$  for F10 and E15 respectively. The hydration of the skins increased after application of F10 and E15 with p-value below 0.05.

**Keyword:** Emulsion; Engkabang; Ester; Illipe; Hydration