

FORMULASI DAN UJI STABILITAS EMULSI VIRGIN COCONUT OIL (VCO) DALAM AIR PADA HYDROPHILIC-LIPOPHILIC BALANCE (HLB) TINGGI

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INTISARI

Pada pembuatan emulsi, nilai HLB dari surfaktan merupakan indikator yang dapat digunakan untuk menghasilkan emulsi terbaik. Pada penelitian ini, nilai HLB yang digunakan untuk mendapatkan emulsi minyak dalam air yang stabil adalah 11 – 15 dengan VCO sebagai fase minyak. Selain itu dilakukan juga variasi rasio VCO:air dengan konsentrasi VCO sebesar 5 – 25 %. Penelitian ini bertujuan untuk mengetahui formulasi dan stabilitas emulsi VCO dalam air pada rentang HLB 11 – 15 dan memahami pengaruh perubahan rasio VCO:air terhadap kestabilan emulsi. Surfaktan berupa Span 80 dan Tween 80 ditambahkan ke dalam VCO sebelum dicampurkan dengan air sambil diaduk dengan *magnetic stirrer*. Produk yang terbentuk diamati kenampakan fisik, uji stabilitas, serta uji FFA.

Berdasarkan penelitian yang telah dilakukan, formulasi emulsi VCO dalam air yang baik dan stabil diperoleh pada nilai HLB 12 dengan komposisi surfaktan:VCO:air sebesar 10:15:75. Kestabilan emulsi ditandai dengan emulsi yang masih homogen sampai minggu ketujuh dan tidak mengalami perubahan kenampakan fisik. Kadar FFA pada formulasi emulsi tersebut sebesar 0,285 %.

Kata kunci: *emulsi, Hydrophilic-Lipophilic Balance (HLB), surfaktan, dan Virgin Coconut Oil (VCO)*.

***FORMULATION AND STABILITY TEST OF VIRGIN COCONUT OIL
(VCO) IN WATER EMULSION AT HIGH HYDROPHILIC-LIPOPHILIC
BALANCE (HLB) VALUES***

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ABSTRACT

In the preparation of emulsion, the HLB value of the surfactant is an indicator that can be used to make the best emulsion. In this study, the HLB value used to obtain a stable oil-in-water emulsion was 11 – 15 with VCO as the oil phase. In addition, variations in the ratio of VCO: water with a concentration of VCO was 5 – 25% were also carried out. The purposes of this study are to determine the formulation and stability of VCO in water emulsion in the HLB range of 11 – 15 and to understand the effect of changes in the VCO:water ratio on the stability of the emulsion. Surfactants in the form Span 80 and Tween 80 were added to the VCO before being mixed with water while stirring with a magnetic stirrer. The product formed was observed for physical appearance, stability test, and FFA test.

Based on the research that has been carried out, the best and most stable formulation of VCO in water emulsion was obtained at HLB 12 with composition of surfactant:VCO:water is 10:15:75. Emulsion stability was indicated by the emulsion which is still homogenous until the seventh week and does not change in physical appearance. The FFA content in the emulsion formulation is 0.285 %.

Keywords: emulsion, Hydrophilic-Lipophilic Balance (HLB), surfactant, and Virgin Coconut Oil (VCO).