

**PENGARUH VARIASI EMULSIFIER DAN KONSENTRASI  
BAHAN AKTIF TERHADAP STABILITAS KRIM *ANTI-AGING*  
BERBASIS MINYAK ZAITUN, MINYAK KENANGA, DAN  
VITAMIN E**

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**INTISARI**

Penelitian berjudul ‘Pengaruh Variasi Emulsifier dan Konsentrasi Bahan Aktif Terhadap Stabilitas Krim *Anti-Aging* Berbasis Minyak Zaitun, Minyak Kenanga, dan Vitamin E’ telah dilakukan. Adapun tujuan dari penelitian ini adalah untuk Adapun tujuan dari penelitian ini adalah untuk membuat sediaan krim wajah berbahan dasar Minyak Zaitun dengan Minyak Kenanga dan Vitamin E, dan mengetahui karakteristik produk dengan melihat pengaruh variasi konsentrasi (aditif) dalam sediaan krim terhadap efektifitasnya sebagai agen *anti-aging*, serta pengaruh penambahan emulgator (kombinasi trietanolamin dan asam stearat) terhadap kestabilan emulsi dalam sediaan krim berbasis Minyak Zaitun.

Penelitian diawali dengan formulasi dan pembuatan krim *anti-aging* dengan menggunakan variasi konsentrasi (aditif) dan emulgator (kombinasi trietanolamin dan asam stearat). Krim *anti-aging* kemudian dilakukan beberapa pengujian untuk mengevaluasi stabilitas serta sifat fisika-kimia dari krim tersebut. Parameter yang diuji antara lain uji organoleptik, uji homogenitas, uji pH, uji daya sebar, uji tipe emulsi, uji pemisahan fase, uji nilai *Sun Protection Factor* (SPF), serta uji aktivitas antioksidan.

Hasil penelitian menunjukkan bahwa peningkatan konsentrasi emulgator meningkatkan stabilitas emulsi dan menekan pemisahan fase. Formulasi paling stabil ditunjukkan pada F3, formulasi tersebut menghasilkan nilai SPF tertinggi yaitu 7,27. Sementara itu, aktivitas antioksidan tertinggi pada F2 yaitu  $IC_{50}$  bernilai 12,10 ppm. Secara keseluruhan, stabilitas fisik dan efektivitas sediaan ditentukan oleh keseimbangan konsentrasi emulgator dan komposisi fase minyak.

Kata kunci : krim anti-aging, minyak zaitun, minyak kenanga, vitamin E, emulgator, trietanolamin (TEA), asam stearat, stabilitas emulsi

## **THE EFFECT OF EMULSIFIER VARIATION AND ACTIVE INGREDIENT CONCENTRATION ON THE STABILITY OF ANTI-AGING CREAM BASED ON OLIVE OIL, YLANG-YLANG OIL, AND VITAMIN E**

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### **ABSTRACT**

The study entitled “The Effect of Emulsifier Variation and Active Ingredient Concentration On The Stability of Anti-Aging Cream Based On Olive Oil, Ylang-Ylang Oil, and Vitamin E” has been conducted. The purpose of this research is to formulate a facial cream preparation based on olive oil combined with ylang-ylang oil and vitamin E, to evaluate the product characteristics by examining the effect of variations in additive concentrations on its effectiveness as an anti-aging agent, and to evaluate the effect of emulsifier addition (a combination of triethanolamine and stearic acid) on the emulsion stability of the olive oil-based cream.

The research began with the formulation and preparation of anti-aging creams using variations in additive concentrations and emulsifier composition (triethanolamine–stearic acid combination). The resulting creams were subjected to several evaluations to determine their stability and physicochemical properties. The parameters evaluated included organoleptic properties, homogeneity, pH, spreadability, emulsion type, phase separation, Sun Protection Factor (SPF), and antioxidant activity.

The results demonstrated that increasing the emulsifier concentration improved emulsion stability and reduced phase separation. The most stable formulation was F3, which exhibited the highest SPF value of 7.27. Meanwhile, the highest antioxidant activity was observed in F2, with an  $IC_{50}$  value of 12.10 ppm. Overall, the physical stability and effectiveness of the cream were determined by the balance between emulsifier concentration and oil phase composition.

**Keywords:** anti-aging cream, olive oil, ylang-ylang oil, vitamin E, emulsifier, triethanolamine (TEA), stearic acid, emulsion stability