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Skripsi, Juli 2021  
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## **KAJIAN PENGARUH SURFAKTAN CHREMOPHOR RH 40 TERHADAP KARAKTERISTIK NANOEMULSI**

### **ABSTRAK**

**Latar Belakang :** Nanoemulsi dapat digunakan pada skincare, kosmetik dan obat dengan berbagai rute pemberian. Nanoemulsi meningkatkan kinerja bahan aktif dan merupakan dispersi minyak air yang distabilkan lapisan film surfaktan. Formula nanoemulsi terdiri dari minyak, surfaktan, kosurfaktan dan hal tersebut berpengaruh terhadap karakteristik fisik nanoemulsi (ukuran droplet, zeta potensial, indeks polidisperitas). Pembuatannya melibatkan chremophor RH 40 diketahui dapat meningkatkan efisiensi pembentukan nanoemulsi spontan dan toksisitasnya rendah. Fase minyak yang dipakai yaitu *Virgin Coconut Oil (VCO)* memiliki sifat baik untuk kulit.

**Tujuan :** Mengkaji pengaruh chremophor RH 40 terhadap karakteristik nanoemulsi sekaligus mengkaji variasi Chremophor RH 40 terhadap karakteristik nanoemulsi.

**Metode :** Penelitian dilakukan dengan metode review artikel dengan menganalisis 5 penelitian sejenis lalu ditarik dan diambil kesimpulannya dari artikel tersebut.

**Hasil :** Chremophor RH 40 memberikan hasil yang memenuhi persyaratan sediaan pada karakteristik nanoemulsi. Variasi perbandingan chremophor RH 40 berpengaruh pada karakteristik nanoemulsi yaitu ukuran droplet dibawah 100 nm, nilai potensial zeta dan indeks polidisperitas menunjukkan bahwa ukuran droplet terdistribusi dengan baik dan homogen. Metode yang digunakan yaitu emulsifikasi spontan (*low energy*).

**Kesimpulan :** Chremophor RH 40 memberikan hasil yang memenuhi persyaratan sediaan pada karakteristik sediaan nanoemulsi, yaitu ukuran droplet, zeta potensial, indeks polidisperitas dan penggunaan variasi Chromophor RH 40 memberikan pengaruh pada karakteristik sediaan.

**Kata kunci :** Chremophor RH 40, Nanoemulsi, Karakteristik

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## **STUDY OF THE INFLUENCE OF CHREMOPHOR RH 40 SURFACTANT ON NANOEMULSION CHARACTERISTICS**

### **ABSTRACT**

**Background :** Nanoemulsion can be used in skincare, cosmetics and medicines with various routes of administration. Nanoemulsions improve the performance of the active ingredient and are dispersions of water oil that stabilize the surfactant film layer. The nanoemulsion formula consists of oil, surfactant, cosurfactant and it affects the physical characteristics of nanoemulsions (droplet size, potential zeta, polydispersity index). Its manufacture involves chremophor RH 40 known to increase the efficiency of spontaneous nanoemulsion formation and its low toxicity. The oil phase used is *Virgin Coconut Oil* (VCO) has good properties for the skin.

**Objective :** Examined the influence of chremophor RH 40 on nanoemulsion characteristics while examining chremophor RH 40 variations on nanoemulsion characteristics.

**Metode :** The research was conducted by article review method by analyzing 5 similar studies and then drawn and concluded from the article.

**Result :** Chremophor RH 40 provides results that meet the dosage requirements on nanoemulsion characteristics. Variations in chremophor RH 40 comparisons affect the characteristics of nanoemulsions, namely droplet sizes below 100 nm, zeta potential values and polydispersity indexes indicate that droplet sizes are well distributed and homogeneous. The method used is spontaneous emulsification (low energy).

**Conclusion :** Chremophor RH 40 provides results that meet the dosage requirements on the characteristics of nanoemulsion preparations, namely droplet size, potential zeta, polydispersity index and the use of Chromophor RH 40 variations influences the characteristics of the preparation.

**Keywords:** Chremophor RH 40, Nanoemulsion, Characteristics

