

FORMULASI DAN UJI STABILITAS FISIK SERTA SPF KRIM TABIR SURYA EKSTRAK ETANOL DAUN TEH HIJAU PADA BERBAGAI KONSENTRASI ASAM STEARAT DAN TEA

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ABSTRAK

Daun teh hijau berpotensi dimanfaatkan sebagai bahan aktif dalam produk tabir surya karena kandungan flavonoidnya, terutama katekin. Krim merupakan salah satu bentuk sediaan tabir surya yang sering digunakan karena mudah digunakan, nyaman saat diaplikasikan, dan mampu menempel di kulit dalam jangka waktu yang lama. Penelitian ini bertujuan untuk mengevaluasi pengaruh variasi konsentrasi asam stearat (12%, 11,5%, 11%, 10,5%, dan 10%) serta TEA (2%, 2,5%, 3%, 3,5%, dan 4%) terhadap kestabilan fisik sediaan serta nilai SPF yang dihasilkan. Penelitian dilakukan secara eksperimental menggunakan lima formula krim berbahan dasar ekstrak etanol daun teh hijau, kemudian dilakukan pengamatan terhadap stabilitas fisik dan nilai SPF pada bulan ke-0, 1, 2, dan 3. Berdasarkan hasil yang diperoleh, formula F4 menunjukkan performa terbaik dalam uji stabilitas fisik dengan viskositas sebesar 22.777 Cps, daya sebar 6,7 cm, dan daya lekat 6,67 detik selama masa penyimpanan. Sementara itu, formula F2 memberikan nilai SPF tertinggi yaitu 39,82. Berdasarkan hasil analisis ANOVA, dapat disimpulkan bahwa variasi konsentrasi asam stearat dan TEA tidak memberikan pengaruh yang signifikan terhadap stabilitas fisik krim dan krim dinyatakan stabil selama penyimpanan, sebagaimana ditunjukkan oleh nilai signifikansi lebih dari 0,05.

Kata kunci: Asam Stearat, SPF, Teh Hijau, Trietanolamin, Uji Stabilitas

FORMULATION AND PHYSICAL STABILITY TESTING OF SUNSCREEN CREAM WITH GREEN TEA LEAF ETHANOL EXTRACT AT VARIOUS CONCENTRATIONS OF STEARIC ACID AND TEA

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ABSTRACT

Green tea leaf extract is a promising active component for sunscreen products due to its high flavonoid content, particularly catechins. Cream was selected as the formulation type owing to its ease of application and user comfort. This research aimed to investigate the influence of different concentrations of stearic acid (12%, 11.5%, 11%, 10.5%, and 10%) and TEA (2%, 2.5%, 3%, 3.5%, and 4%) on the physical stability of the cream and to evaluate the corresponding SPF values. An experimental design was used, involving five formulations containing green tea leaf ethanol extract, with assessments of physical stability and SPF conducted at 0, 1, 2, and 3 months. Results indicated that formulation F4 demonstrated optimal physical stability over the three-month period, with viscosity of 22,777 Cps, spreadability of 6.7 cm, and adhesion time of 6.67 seconds. Meanwhile, formulation F2 achieved the highest SPF, measured at 39.82. Based on the results of the ANOVA analysis, it can be concluded that variations in the concentration of stearic acid and TEA do not have a significant effect on the physical stability of the cream and the cream is declared stable during storage, as indicated by a significance value of more than 0.05.

Keywords: Green tea, SPF, Stability testing, Stearic acid, Triethanolamine