

Sunscreen Based on Stevia Leaf Extract (*Stevia rebaudiana*) as Anti-UV and Antioxidant

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Abstract

Clove (*Syzygium aromaticum*) (synonym: *Eugenia caryophyllata*) is one of the most valuable spices that has been used for centuries as food preservative and also used for many medicinal and also pharmacological purposes. Clove is native to the Maluku Islands of Indonesia but nowadays is cultured in several parts of the world. Clove oil is one of an essential oil product extracted from clove plants especially from its flowers, stems and leaves. On the other hand stevia (*Stevia rebaudiana*) is a subtropical herb that has a more or less pubescent stem with a broad, fibrous and filiform root system. Stevia has several pharmacological and therapeutic applications. Stevia has antioxidant, antifungal, antimicrobial, and anticarcinogenic activities. *Study on Sunscreen Based on Stevia Leaf Extract (Stevia rebaudiana) as Anti-UV and Antioxidant* has been done. The aim of this study was to optimize the sunscreen made of stevia leaves extract and clove oil. This study was an experimental study using factorial design methods. Test parameter applied to this study were homogeneity, pH, spreadability, specific gravity, and the sun protection factor (SPF). The study result showed that FC is the best formulation sunscreen from stevia leaves extract and clove oil (7.5:9) have quality characteristics ratio as follow specific gravity 1.02, pH 6.9, SPF value 13.65, diameter of spreadability 47mm, and homogen sunscreen. In addition, this sunscreen were potentially protect skin damage which followed aging process due to UV B exposure and also maintain skin elasticity.

Keywords

Antioxidant, Anti-UV Sunscreen, Clove, Skin elasticity and *Stevia rebaudiana*

Biography

Kun Harismah is professor in Chemical Engineering at Universitas Muhammadiyah Surakarta, Surakarta Indonesia. Harismah holds a Master of Science in Chemistry from Gadjah Mada University, Yogyakarta Indonesia, and PhD in Chemistry from University of Sheffield, United Kingdom. She has published research articles in Journal of Molecular Liquids, Advanced Journal of Chemistry, Advanced Journal of Science and Engineering, and Advanced Science Letters. Her research interests include natural product, essential oils, and food technology.