RESEARCH ON THE DEVELOPMENT OF A SHOWER GEL CONTAINING ALOE VERA EXTRACT

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Abstract

The rising demand for sustainable, plant-based personal care has prompted interest in *Aloe vera* leaf gel, which contains over 75 bioactive compound- notably acemannan- renowned for its humectant and cicatrizing properties. This study aimed to formulate and characterize an *Aloe vera*-based moisturizing shower gel.

The developed formulation exhibited optimal wettability and cleansing efficacy, maintaining a physiological pH (5.5–6.5) compatible with the skin mantle. Rheological analysis confirmed pseudoplastic (shear-thinning) behavior, facilitating ease of application, with a static viscosity of 3.09 Pa·s. Furthermore, the product demonstrated robust foaming capacity and stability. Biocompatibility assessment using the HET-CAM model revealed a dose-dependent irritation profile: moderate irritation at high concentrations (≥25%), mild irritation at intermediate levels (5–10%), and no significant irritation at low concentrations (≤2.5%). These findings suggest that the *Aloe vera* shower gel is a viable, skin-safe alternative for dermatological applications, balancing functional performance with favorable safety profiles at appropriate dilution levels.