

Formulation Development and Evaluation of Gel Base Face Serum of Alum, Coconut Oil & Vitamin E

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Abstract: Artificial Intelligence (AI) is increasingly The present study focuses on the formulation and evaluation of a gel-based face serum utilizing natural and skin-friendly ingredients—alum, coconut oil, and vitamin E. The objective was to create a lightweight, non-greasy, and effective skincare product that offers multiple benefits, including astringent action, moisturization, and antioxidant protection. A gel base was prepared using Carbopol 940 and triethanolamine, into which the active ingredients were incorporated in carefully optimized concentrations. The final formulation was evaluated for physicochemical parameters such as pH, viscosity, spreadability, stability, and skin irritation potential. The results indicated that the serum exhibited ideal pH (close to skin pH), good consistency, excellent spreadability, and no adverse skin reactions. The product remained stable under varying storage conditions, with no phase separation or discoloration observed over a three-month period. Based on the findings, the developed face serum can be considered a promising candidate for safe and effective daily skincare, combining the benefits of natural ingredients in a convenient gel format.

Keywords: Face Serum, Gel Formulation, Alum, Coconut Oil, Vitamin E, Skincare, Natural Ingredients, Antioxidant, Astringent, Moisturizer, Cosmetic Formulation, Stability Evaluation

