

# Formulation and Evaluation of Herbal Handwash

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**Abstract:** A gel is a semi-solid system composed of a three-dimensional network of interconnected molecules that traps a liquid, giving it a jelly-like consistency. It is a colloidal dispersion in which the liquid phase is immobilized within the solid matrix. Gels can exhibit properties of both solids and liquids, making them highly versatile.

This study focuses on developing a herbal handwash using natural ingredients like neem, tulsi, aloe vera, and lemon, known for their antimicrobial and skin-soothing properties. The formulation was evaluated for pH, viscosity, foam stability, cleansing efficiency, and antimicrobial activity against pathogens like *E. coli* and *S. aureus*. Results showed excellent germ-killing efficacy, good cleansing performance, and skin compatibility. The herbal handwash offers a safe, eco-friendly, and effective alternative to chemical-based products, ensuring hygiene without harming the skin or environment.

Herbal handwash products made from Neem, Tulsi (Holy Basil), and Aloe Vera are popular for their natural cleansing properties and skin benefits. These ingredients are known for their medicinal and therapeutic qualities and are commonly used in skincare products for their antibacterial, antifungal, and soothing properties. Here's a breakdown of how each of these herbs benefits a herbal handwash.

Herbal Handwash Gel is a natural, gel-based hand hygiene product formulated with plant-based ingredients and herbal extracts. It is designed to cleanse hands effectively while being gentle on the skin. Unlike conventional handwashes, herbal handwash gels often exclude harsh chemicals, synthetic fragrances, and artificial preservatives, making them safer for regular use and environmentally friendly..

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