iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 14 **Issue:** III **Month of publication:** March 2026

DOI: https://doi.org/10.22214/ijraset.2026.79027

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 14 Issue III Mar 2026- Available at www.ijraset.com

Preparation and Evaluation of Herbal Shampoo

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Abstract: ***The purpose of the research is to develop and evaluate a shampoo using ingredients for cosmetic use. A selection of herbal constituents, such as neem, orange peel, and aloe vera gel, were used to develop a herbal anti-dandruff shampoo. Herbal shampoos are natural hair care solutions designed to remove oil, dirt, and dandruff while promoting hair strength, growth, and blackness. To guarantee safety and effectiveness, the formulation was assessed at the laboratory scale for a number of organoleptic qualities, general powder characteristics, and physicochemical properties***
Keywords**:** ***Neem, Aloe vera, Lavender Oil, lemon oil, Tulsi, Liquid Castile soap, Water***

I. INTRODUCTION

For age, a range of natural remedies, including homeopathic, Siddha, and Ayurvedic remedies, have employed neem and aloe vera. Dandruff is a prominent hair disease that causes a lot of public concern in India alongside other countries. Shampoos have become increasingly popular in the history of hair care, replacing traditional soap cakes. Shampoos are mathematical equations for liquid, solid, or powdery surfactants that effectively remove skin trash and surface oil from the hair. Choosing high-foam shampoos often leaves hair excessively dry, yet a good shampoo creates a lot of foam, regardless of the type of moisture or contamination

II. CLASSIFICATION OF SHAMPOO

Based on Appearance

- Powder shampoo
- Liquid shampoo or lotion shampoo
- Gel shampoo or Solid shampoo
- Cream shampoo
- Oil shampoo

Based on their use or function

Therapeutic shampoo, baby shampoo, Antidandruff shampoo clarifying shampoo, balancing shampoo, various Antidandruff shampoos, or medicinal shampoo depending on where it comes from, herbal shampoo

- Shampoo made from eggs [1]

III. CLASSIFICATION OF DANDRUFF

Dandruff is classified according to its symptoms as follows:

- Dry dandruff
- Oily dandruff
- Excessive dry dandruff: (A) Also known as pityriasis simplex. B) Identified by the presence of small scales that gather on the scalp.
- Oily dandruff: (A) Referred to as pityriasis steatites. Occurs on the scalp when there is an increase in sebum production

IV. FUNCTIONS OF SHAMPOO

1) To enhance the shine and smoothness of the hair.
2) A generous amount of foam is produced.
3) It should not irritate the skin, eyes, or scalp.
4) Dirt must be efficiently and completely eliminated.
5) It provides a pleasant scent to the hair.
6) Ensure thorough and successful removal of dirt or soil

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7) The hair should be washed effectively.
8) Create sufficient foam to meet user expectations.

BENEFITS:

Certainly! The following are some advantages of effectively managing and treating dandruff:

- Improved Scalp Health: Proper dandruff treatment minimizes flakiness, itching, and irritation, fostering a healthier scalp environment that can enhance overall comfort and scalp health.
- Enhanced Hair Appearance: By reducing flakes and restoring the natural shine and texture of the hair, dandruff management can improve hair appearance, decreasing the chances of hair looking dull or greasy.
- Reduced Itching and Discomfort: Dandruff treatment alleviates itching and discomfort on the scalp, enhancing daily comfort and reducing the urge to scratch, which can further irritate the scalp.
- Prevention of Secondary Infections: Effective dandruff treatment can lower the risk of secondary infections, such as bacterial or fungal infections, by preventing skin breaks from scratching and reducing scalp irritation.
- Confidence Boost: Eliminating dandruff can boost confidence and self-esteem, especially in social and professional settings where visible flakes are a concern.

V. MATERIALS AND METHODS

PlantMaterial:(API)

1) *Neemleaves*



2) *Aloevera*



3) Tulsi



4) Lavender Oil

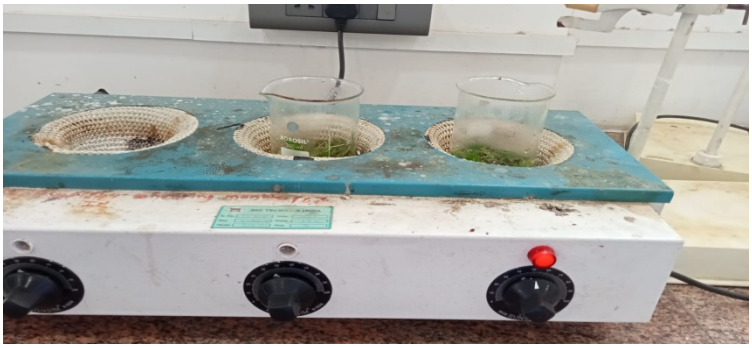


5) TeatreeOil /Lemon Oil



Liquid castile soap,etc.

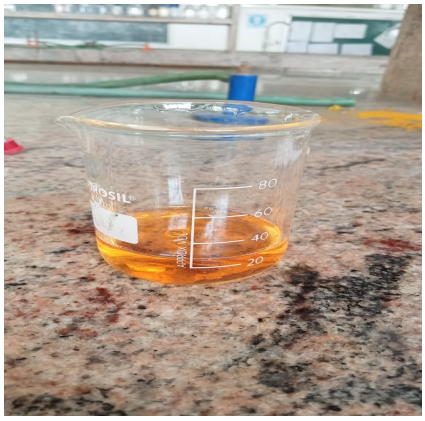
ProcedureforPreparingPlantExtracts



- The extracts were prepared using a simple maceration technique.
- We began by examining fresh, healthy leaves of Tulsi and neem.
- The leaves were then washed with purified water and air-dried for a short period.
- The heating apparatus was set up, and the Tulsi and neem leaves were boiled separately in 100 ml of filtered water.
- The resulting solution was filtered through a filter paper.
- Aloe vera gel was then extracted from the leaves.
- The extract was then combined and filtered
- A heating element was employed to evaporate the solvent
- The final product was stored in a container for subsequent use.

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Considering this, formulating an anti-dandruff shampoo

- The next step involved using Tulsi and neem extracts.
- Aloe vera gel was added and mixed thoroughly with the solution.

Methods for Making Anti-Dandruff Shampoo

- Aloe vera gel was incorporated and gently stirred
- Neem and Tulsi extracts were blended together.
- Liquid Castile soap was gradually added and stirred to prevent foam formation.
- Subsequently, tea tree and lavender essential oils were added to the mixture.
- Sufficient amounts of purified water were used for each experiment.

Assessment of Herbal Shampoo

Solubility refers to the ability of a substance to dissolve in a detergent. The liquid soap was directly placed in a teacup containing 100 ml of water. For solubility testing, the solution was gently agitated and warmed. The residue was measured and noted for solidification and cleaning.

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Procedure for Conducting Foam Stability Test

- A 50 ml soap solution was prepared in a 250 ml graduated cylinder.
- The mixture was agitated ten times.
- After shaking at room temperature for a few seconds, the total froth volume was measured.
- Froth stability is gauged by the froth height, which can be continuously monitored after shaking the mixture.

VI. VISCOSITY

Assessment Viscosity, which refers to a fluid's (solid, liquid, or gas) resistance to shape change or movement of adjacent parts relative to each other, was evaluated. Rheological tests showed a gradual change in viscosity with increasing concentration, offering insights into the flow characteristics of the formulated anti-dandruff shampoo

1) Measurements of PH

A 10% v/v shampoo solution was prepared in distilled water, and its pH was measured using a calibrated pH meter.

2) Percentage of Solid Content

Four milliliters of shampoo was placed in a clean, dry evaporating dish. The dishes and shampoo were weighed, and the exact weight of the shampoo was determined. The weight of the dried shampoo was calculated.

*3) **Wetting Test***

The time taken for the canvas paper to absorb all the water was recorded as the wetting time,. A disc with a 1-inch diameter was cut from a piece of canvas paper weighing 0.44 g. A canvas paper disc was placed on the surface of the shampoo (1% v/v), and the time taken for the paper to sink was measured using a stopwatch.

VII. CONCLUSION

In conclusion, formulating an herbal anti-dandruff shampoo with ingredients such as neem, Tulsi, aloe vera, lavender oil, tea tree oil, and liquid castile soap is a deliberate and systematic approach to utilizing the beneficial properties of these natural elements. By adhering to a structured procedure, one can ensure

This formulation effectively addresses dandruff while promoting scalp health and overall hair care. A herbal anti-dandruff neem shampoo was prepared, and parameters such as physical properties, pH, viscosity, consistency, solid content, foam stability, and shampoo yield showed positive results.

VIII. RESULT AND DISCUSSION

A simple mixing process was employed to create the herbal shampoos. The herbal anti-dandruff shampoo was formulated by adding the required amount of herbal ingredients, as per the formulation table. This study focused on the preparation and evaluation of a herbal anti-dandruff neem shampoo. The evaluation covered various parameters, including the physical properties, pH, viscosity, consistency, solid content, and foam stability.

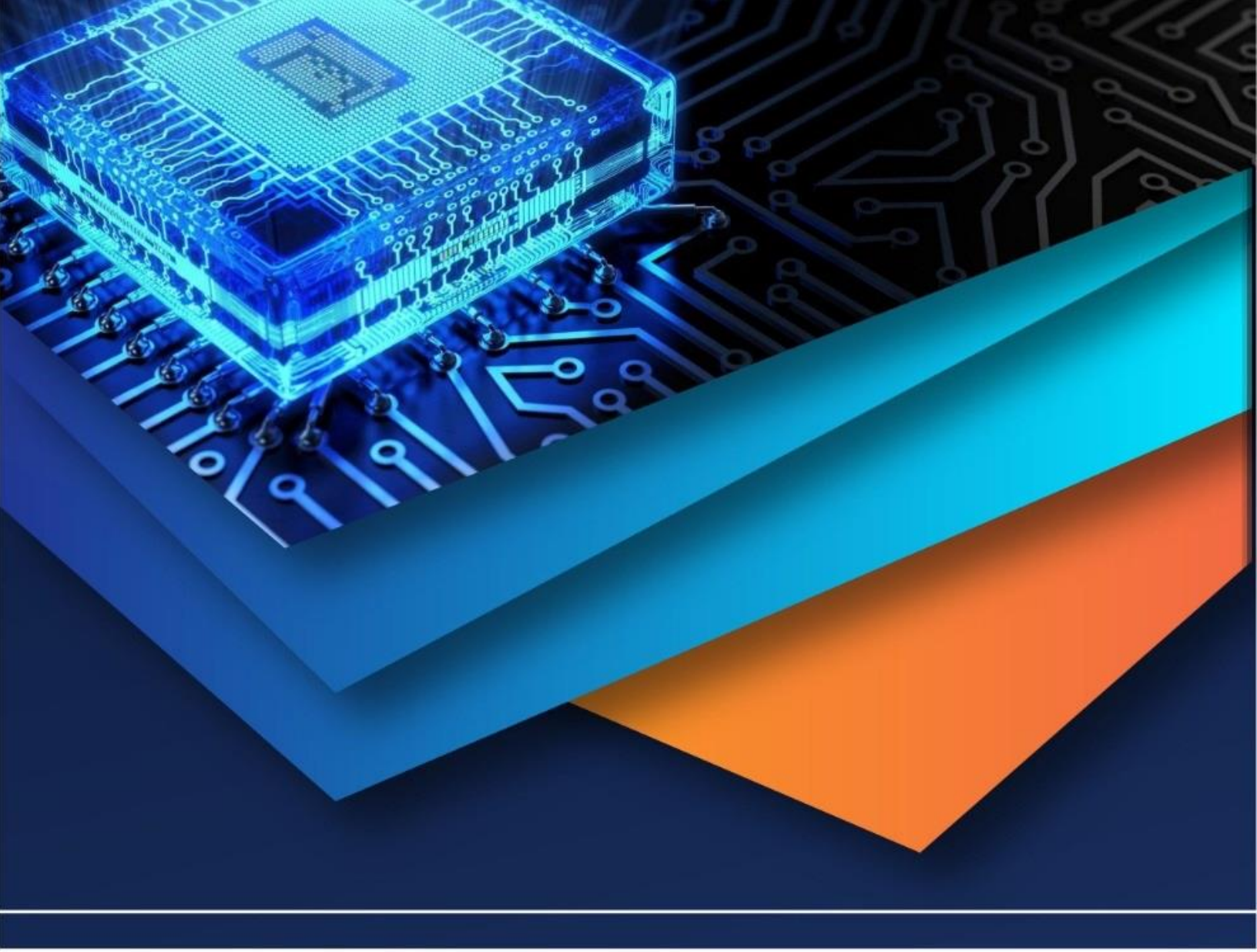
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