

# FORMULATION AND EVALUATION OF A HERBAL SCRUB FOR SKIN EXFOLIATION AND NOURISHMENT

Author: Vidya P. Goupale, Dr. T.P Nimbekar

SHRI LAXMANRAO MANKAR INSTITUTE OF PHARMACY,AMGAON

DIST- GONDIA-441902

Corresponding Author-Vidya P.Goupale\*

**ABSTRACT:** Herbal face scrubs are a popular choice for those who prefer natural skincare products. They are made from plant-based ingredients and do not contain harsh chemicals, making them safe for all skin types. The scrubs gently remove dead skin cells, dirt, and impurities from the skin's surface, revealing fresh and smooth skin. Herbal face scrubs typically combine herbs, fruits, and other natural ingredients that provide various skin benefits. Common herbs used include Multani mitti , rose, rice, flour, and sandalwood. These herbs have properties that helps soothe and protect the skin from environmental damage. The exfoliating particles in herbal face scrubs can vary, with some using natural particles like masoor dal or walnut shell powder to gently remove dead skin cells. Indian sandalwood, also known as Santalum album L., is a valuable source of natural fragrance with medicinal and commercial importance. It has been growth in India for 25 centuries and prized for its fragrant oil. Sandalwood oil and its components have shown no significant toxicity, but further research is needed to understand their full benefits. It's been used for Thousands of years and is considered very valuable. Sandalwood oil is safe and has many good properties. But scientists need to study it more to understand its full benefits. Using herbal face scrubs. Can make your skin feel soft and look bright. They can help also with acne and other skin problems. Many people like using natural products because they are gentle and don't harm the environment.

**KEYWORDS:** Sandalwood, Rice Flour, Rose, Multani Mitti.

**INTRODUCTION:** Herbal face scrubs help make skin look and feel better. They are made from natural ingredients like herbs and plants. These scrubs gently remove dead skin cells and make skin look smoother. Some scrubs also helps to protect skin from damage, and it look younger. Sandalwood is a special ingredient used in some scrubs. It is a valuable tree with nice

smell and benefits. Sandalwood oil comes from trees, wood and roots. It's used in perfumes and skin care products.

Herbal face scrubs are special cream that helps make your skin Look and feel better. They are made from natural ingredients like plants and herbs, which are gentle and good for your skin. Unlike other scrubs that can be harsh, herbal face scrubs use ingredients like sugar, salt and herbs. Like chamomile and roses to gently remove dead skin cells and make your skin look smoother. These scrubs can also help with other skin problems. Like protecting your skin from damage and making it look younger some scrubs can even calm and soothe sensitive skin. and one special ingredient used in some herbal face scrubs is sandalwood. Sandalwood has been used for thousands of years and is still popular today. It's considered a precious tree in India and is used to make perfume and its skin care products.

## **Material and method:**

### **Plant description:(Santalum album)**

Santalum Album (Indian Sandalwood) is a big tree that can grow up to 20 meters tall. It has thin branches.

Types of Sandalwood- There are two kinds of sandalwood: Indian and Australian. Australian Sandal trees are shorter.

Tree Size: Grows up to 20 meters tall with a girth of up to 2.4 meters. - Branches: Slender and drooping.

Bark: Dark brown to black, smooth when young, rough with cracks when o.



Fig.Santalum album L.

## Ingredients and Their Use:

### 1.Rice Flour:

**Biological Source:** It is the seed of grass species sativa or oryza glaberrima.

**Uses-** Oil- retaining properties, potent skin clearing agent, reduce UV damage, prevent skin aging, Anti- inflammatory agent.

### 2.Rose Water:

**Biological Source:** Rose water is obtained from sepals and petals of rosa damascene through stem distillation.

**Uses-** Smoothens skin irritation, reduce skin redness, heal cuts and scars treat burns.

### 3.Sandalwood Powder:

**Biological Source:** Sandalwood powder is obtained from heart wood of evergreen tree Santalum album.

**Uses-** Ayurvedic medicines, religious rituals, perfumes and incense, cosmetics, to treat dysentery, acne, and skin conditions.

### 4.Multani Mitti:

**Biological Source:** A type of clay mineral, primarily composed of hydrous aluminium silicate.

**Uses-** Deep cleansing, oil control, acne treatment, skin brightening exfoliation, cooling, reduce hyperpigmentation and soothing.

### 5. Glycerine:

**IUPAC Name:** Propane-1,2,3-triol.

**Uses-** Acts as a moisturizer and sweetener in a food and beverages as a solvent.

### 6.Rosehip Oil:

**Biological Source:** Cold-pressed from the seeds of wild rose bush species such as R. canina and Rose canina moschata.

Uses- Bladder infections, diabetes, supporting skin elasticity, moisturizing, and antiaging properties.

### **7.Propyl Paraben:**

IUPAC Name: Propyl 4-hydroxybenzoate.

Uses- Use as preservative in cosmetics, pharmaceuticals and food products.

### **8.Citric Acid:**

IUPAC Name: 2-hydroxypropane-1,2,3-tricarboxylic acid.

Uses- It is use in food and beverages in industries as a flavouring agent, adjust acidity, cleaning products.

### **Method:**

**Step 1:** Prepare Dry Ingredients - Weigh sandalwood powder, Multani mitti, Rice flour accurately. - Sieve and mix them well in a clean, dry bowl.

**Step 2:** Prepare Liquid Phase - Dissolve propyl paraben in rose water. - Stir well until fully dissolved.

**Step 3:** Mix Formulation - Slowly add liquid phase into dry mixture. - Stir continuously.

**Step 4:** pH Adjustment & Final Mixing - Check pH using pH strip or a pH meter. - Adjust pH with citric acid if necessary. - Mix for 5-10 minutes to ensure uniform blending.

**Step 5:** Storage & Shelf Life - Transfer the herbal scrub into airtight container for preventing contamination.

-Store in cool & dry place.

-Shelf life 2-3 month with proper storage.

### **Evaluation parameters:**

**Physical Appearance:** Visually inspected for colour, homogeneity, consistency.

**Appearance:** pale yellow colour, characteristic odour.

**pH Determination:** • 2.5g of scrub dispersed in 25ml distilled water. pH measured using digital pH meter.

**Grittiness:** Evaluated for gritty particles.

**Washability:** The product was applied on hand/glass slide. Observed under running water to assess ease of washing.

**Irritability:** Apply on hand and left for a short time. There is no irritation, oedema or redness is observed.

**Spreadability:** Measured by placing sample on glass slides. Time taken to spread 4cm in 40 seconds.

**Texture and homogeneity:** Rubbed between thumb and index finger. Uniform texture observed.

## Result:

### 1. Percentage yield

Percentage yield =  $(\text{Actual yield} / \text{theoretical yield}) * 100$

The theoretical yield is 30 gm and the actual yield is 20gm

Percentage yield =  $(20\text{gm} / 30\text{gm}) * 100 = 66.66\%$

### Final formulation table:

Ingredient	quantity	purpose
Sandalwood powder	20g	Soothing & brighting
Multani mitti	10g	Deep cleansing & oil absorption
Rice flour	10g	Gentle exfoliation
Rose water	8g	Hydration & mixing medium
Rosehip oil	2g	Nourishment and skin repair
Propyl paraben	0.125g	As a preservative
Citric acid	0.1g	An exfoliation

### Evaluation parameters:

- **Colour** - Visual inspection revealed a yellowish brown face scrub.

- **Odour** - Sweet and simple syrup like odour is obtained
- **State** -Semisolid state of scrub
- **Consistency** - Consistency was found to be smooth with visual observation.
- **pH** - pH was to be 4-6.
- **Spread Ability**- Measured by placing sample on glass slides, time taken to spread 4cm in 40 seconds.
- **Homogeneity** – Smooth consistence
- **Homogeneity** – Smooth consistence
- **Grittiness** – Few gritty particles observed in formulation.

### **Summary and discussion:**

The development of an herbal face scrub involves formulating a product that combines natural ingredients with exfoliating properties to remove dead skin cells, improve skin texture, and promote a healthy glow. Key ingredients often include herbs, essential oils, and natural exfoliants like sugar or salt. These ingredients are chosen for their beneficial properties, such as antioxidant, anti-inflammatory, and antimicrobial effects, which can help address various skin concerns like acne, dryness, and aging. When creating an herbal face scrub, it's essential to consider the following factors:

**Skin type:** Different skin types (normal, dry, oily, sensitive) require tailored formulations to ensure effectiveness and safety.

**Ingredient selection:** Choose ingredients that are compatible with the target skin type and address specific skin concerns.

**Exfoliant type:** Select exfoliants that are gentle yet effective, such as sugar, salt, or fruit seeds.

**Preservation:** Ensure the product is properly preserved to prevent microbial growth and maintain stability.

**Regulatory compliance:** Comply with relevant regulations and guidelines for cosmetic products.

### **Conclusion:**

A herbal face scrub was developed and evaluated for various parameters in this study.

- The formulation passed all tests, proving it's safe and effective for skin application, promoting healthy and bright skin without adverse effects.
- Natural and herbal cosmetics are often preferred for being simpler, safer, and more effective than other options.

- The polyherbal face scrub is suitable for all skin types, offering antioxidant, antiseptic, and anti-aging benefits.

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