

# Formulation And Evaluation Of Herbal Scurb

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**Abstract:** *Cosmetics throughout History The origin and evolution of cosmetics, from ancient times to the modernera. Ancient Origins of Cosmetics The term "cosmetics" traces its roots to the Greek word "kosmeticos," meaning adornment. Since ancient tribal days, humans have adorned themselves for beautification, with both men and women using various materials.*

**Keywords:** Cosmetics

## I. INTRODUCTION

Cosmetics Throughout History The origin and evolution of cosmetics, from ancient times to the modernera. Ancient Origins of Cosmetics The term "cosmetics" traces its roots to the Greek word "kosmeticos," meaning adornment. Since ancient tribal days, humans have adorned themselves for beautification, with both men and women using various materials. Evolution of Cosmetics Over time, cosmetics expanded beyond adornment to include items like high-heeled shoes and artificial dentures. The acceptance and role of cosmetics in daily life increased significantly post World War II, as they were recognized for their psychological and skincare benefits. Modern Understanding of Cosmetics Cosmetics are now considered essential commodities, not merely for adornment but also for skincare and psychological well-being. The skin, particularly the face, serves as an indicator of an individual's health. Herbal Cosmetics and Cosmeceuticals Herbal cosmetics utilize natural ingredients with cosmetic benefits, gaining popularity for their gentle and non-toxic properties. Cosmeceuticals, introduced in the 1990s, combine cosmetic and pharmaceutical properties, often using plant-based active ingredients for therapeutic benefits. Medicinal Plants and Extraction Techniques Medicinal plants have been used historically for various ailments and are now recognized as important sources of drugs. Extraction methods, including distillation, maceration, and solvent extraction, are used to obtain active components from plants for medicinal purposes. Facial Scrubs and Exfoliation Facial scrubs use mechanical or chemical means to exfoliate the skin, removing dead cells and promoting cell turnover. Herbal facial scrubs offer benefits such as reducing age-related changes and environmental damage. Benefits of Scrubbing Your Skin Scrubbing cleanses the skin, removes dead cells, and improves skin texture, promoting a clear, smooth, and glowing complexion. It can also help in the removal of dark patches, acne scars, and prevention of ingrown hair. At the end, Cosmetics have a rich history rooted in human desire for adornment and skincare. From ancient practices to modern formulations, cosmetics continue to play a vital role in personal grooming and well-being.

### Key Components of a Herbal Scrub

1. Exfoliants: Natural, gritty substances that physically remove dead skin.
  - o Examples: Ground almonds, oats, walnut shells, rice bran, or coffee grounds.
2. Herbs and Botanicals: Provide additional benefits such as soothing, anti-inflammatory, or antimicrobial properties.
  - o Examples:
    - Turmeric – brightens and has anti-inflammatory properties.
    - Neem – antibacterial, good for acne-prone skin.
    - Sandalwood – cooling and calming.
    - Aloe vera – hydrates and soothes.
    - Tulsi (Holy Basil) – detoxifying.
3. Base/Carrier: Moisturizes and helps the scrub spread easily.
  - o Examples: Honey, yogurt, milk, rose water, coconut oil, or aloe vera gel.



**MATERIAL**

Plant Material

□ I. alovera Synonym

Aloe vera, burn plant

Biological source –

Dried latex of leaves of it also known as cape aloe belong to the

Family-liliaceae Description –

Colour- clear to slightly yellow / translucent gold

Odour-similar like rotten garlic or onion.

Taste- Bitter

Chemical constituents - aloe emodin.

Uses - heals burns and clears acne.



Fig. alovera

2. Honey Synonym – Shahad Biological source –

It consists of saccharine liquid prepared from the nectar of the flowers by Honeybee Apis mellificae belonging to family Apadae.

Description –

Colour- Yellow brown coloured liquid,

Odour – Sweet, Taste – Sweet.

Chief chemical constituents - Dextrose and laevulose (70-80%) Dextrin (0.06-1.25%) Proteins Uses - Good for wrinkles and aging Prevent acne Remove dirt from pores.



Fig.honey



3. Turmeric Powder Synonym –

Curcuma longa

Biological source –

It consists of dried rhizomes of Curcuma longa belonging to family Zingiberaceae.

Colour - Yellow, Odour – Aromatic, Taste – Bitter

Chief chemical constituents - Curcumin, Curcuminoids

Uses –

Reduce acne, Glowing skin and Lightens skin. Turmeric has the potential to reduce swelling (inflammation) and irritation. Inflammation and irritation can aggravate other skin conditions, so using turmeric as a regular face mask can help.



Fig. turmeric

4. beetroot powder Synonym –beta vulgaris powder.

Biological source –

beetroot powder is mainly derived from the root of beta vulgaris plant. Description – beetroot powder is a Finely ground powder made from dried beets Of fering a concentrated source of nutrients And antioxidants family – Chenopodiaceae family Taste -slightly sweet

- Benefits of Beetroot Powder in Herbal Scrubs Rich in Antioxidants
- Contains betalains, which help fight free radicals and reduce signs of aging.
- Improves Complexion
- Naturally brightens dull skin, giving a healthy pinkish glow.
- Detoxifies the Skin
- Helps cleanse pores and remove toxins, reducing breakouts.
- Anti-inflammatory
- Soothes irritation and redness, useful for acne-prone or sensitive skin.
- Boosts Circulation
- The natural nitrates in beetroot may promote blood flow, improving skin vitality.
- Mild Natural Colorant
- Gives a natural pink tint to DIY skincare products.



Fig. beetroot powder



#### 5. lemon 1st Synonym

- Synonym: Citrus medica var. limon

#### Biological Source

- Botanical Name: Citrus limon (L.) Burm.f.

- Family: Rutaceae

Part Used: Fruit juice and peel (fresh or dried)

#### Description

Lemon is a citrus fruit known for its high content of vitamin C, citric acid, and natural antioxidants. In herbal scrubs, lemon is commonly used in the form of lemon juice or lemon peel powder.

It acts as a natural exfoliant, brightener, and astringent, making it especially popular for oily and acne-prone skin.

#### Uses in Herbal Scrubs

##### Use Description

**Exfoliation** The citric acid in lemon helps dissolve dead skin cells and promotes new cell growth.

**Skin Brightening** Vitamin C helps lighten dark spots, pigmentation, and evens out the skin tone.

**Antibacterial** Its natural acidity helps kill acne-causing bacteria and unclog pores.

**Oil Control** Lemon has astringent properties that reduce excess oil production.

**Anti-Aging** Antioxidants fight free radicals, helping reduce fine lines and wrinkles.



Fig. lemon

#### 6. rice flour Synonym

- Synonym: Oryza sativa var. japonica (a commonly cultivated variety for rice flour)

#### Biological Source

- Botanical Name: Oryza sativa L.

- Family: Poaceae (Gramineae)

- Part Used: Seeds (grain, milled into flour)

#### Description

Rice flour is a finely ground powder made from raw rice (white or brown). It's a traditional and widely used ingredient in natural skincare across Asia, particularly in Japan, Korea, and India.

In herbal scrubs, rice flour acts as a gentle exfoliant and skin brightener with oil-absorbing and anti-inflammatory properties.

#### Uses in Herbal Scrubs

##### Use Description

- Gentle Exfoliation Removes dead skin cells without causing microtears, suitable for sensitive skin.

- Skin Brightening Rich in antioxidants and compounds like ferulic acid and allantoin, which help lighten pigmentation and improve complexion.

- Oil Absorption Helps control excess sebum, making it ideal for oily and acne-prone skin.



- Soothing Reduces inflammation and redness, beneficial for irritated or sensitive skin.
- Anti-Aging Contains antioxidants that help firm the skin and reduce signs of aging.



Fig. using rice flour as soothing agent

#### 7. multani mitti

##### Synonym

- Synonym: Fuller's Earth

##### Biological Source

- Type: Naturally occurring mineral clay
- Main Composition: Hydrated aluminum silicates (similar to bentonite clay)
- Source/Origin: Primarily mined in Multan, Pakistan (hence the name)

##### Description

Multani Mitti, also known as Fuller's Earth, is a natural clay substance that has been used for centuries in Ayurvedic and Unani skincare. It's prized for its oil-absorbing, cleansing, and cooling properties. In herbal scrubs, it serves as a base ingredient that deep cleanses the skin, tightens pores, and promotes a smoother texture.

##### Uses in Herbal Scrubs

- Use Description
- Deep Cleansing Absorbs oil, dirt, and impurities from deep within the pores.
- Oil Control Excellent for oily and acne-prone skin as it mattifies and prevents breakouts.
- Exfoliation Gently removes dead skin cells when combined with other natural exfoliants.
- Skin Tightening Firms and tones the skin, reducing the appearance of pores.
- Cooling Effect Soothes inflammation and helps calm irritated or sunburned skin.



Fig. Multani mitti



8.rose water

Synonym

• Synonym: Rose Hydrosol

Biological Source

Botanical Name: Rosa damascena Mill.

Family: Rosaceae

Used: Flower petals

Product Type: Hydrosol (a byproduct of essential oil distillation) or aromatic distillate

Description

Rose water is a natural, aromatic liquid made by distilling rose petals with steam. It is rich in antioxidants, vitamins, and natural anti-inflammatory compounds, making it a soothing and hydrating ingredient in skincare. In herbal scrubs, rose water is often used as a liquid base to bind dry ingredients, enhance absorption, and provide a refreshing feel.

Uses in Herbal Scrubs

- Use Description
- Hydration Provides moisture to the skin without making it oily—suitable for all skin types.
- Soothing & Calming Reduces redness, irritation, and inflammation—ideal for sensitive or acne-prone skin.
- Natural Toner Helps maintain skin's pH balance and tightens pores.
- Antioxidant Protection Fights free radicals that contribute to aging.
- Fragrance & Refreshment Leaves skin smelling fresh and feeling rejuvenated.



Fig. rose water

Herbal Scrub Preparation Procedure

Ingredients and Their Role

Ingredient	Quantity (for 100g batch)	Function
Rice Flour	20 g	Gentle exfoliant
Multani Mitti	20 g	Deep cleansing, oil control
Beetroot Powder	5 g	Brightening, antioxidant
Aloe Vera Gel	20 g	Moisturizing, soothing
Honey	10 g	Humectant, antibacterial
Lemon Juice (fresh)	5 ml	Astringent, brightening
Rose Water	15 ml	Base liquid, toner
Methylparaben	0.2 g	Preservative
Distilled Water (if needed)	q.s. to 100 g	To adjust consistency

Equipment Needed

- Mixing bowl (glass or stainless steel)
- Spatula or spoon (non-metallic preferred)
- Weighing scale or measuring spoons
- Sterilized container (for storage)
- pH paper or meter (optional but recommended)



**Procedure**

**Step 1: Prepare the Base**

1. In a clean mixing bowl, combine:

- o 20 g rice flour
- o 20 g Multani mitti
- o 5 g beetroot powder

Mix dry ingredients thoroughly.

**Step 2: Add Functional Liquids**

2. In a separate container, mix:

- o 15 ml rose water
- o 20 g aloe vera gel
- o 10 g honey
- o 5 ml lemon juice

Stir until well blended.

**Step 3: Dissolve the Preservative**

3. Dissolve 0.2 g methylparaben in a small amount of warm distilled water (about 2–3 ml). Stir
4. until fully dissolved.

Note: Methylparaben dissolves better in warm water.

**Step 4: Combine Phases**

4. Add the liquid mixture (Step 2 + dissolved methylparaben) gradually into the dry mix from Step 1.
5. Stir continuously to form a smooth, uniform paste.
6. Adjust consistency with a few ml of distilled water if needed.

**Step 5: pH Check (Optional but Ideal)**

- The ideal pH for skin products is around 4.5–6.0. Use pH paper or a meter to check.
- If pH is too low (acidic), add a tiny amount of sodium bicarbonate. If too high, adjust with lemon juice or citric acid.

**Step 6: Packaging and Storage**

- Transfer the final product into a clean, sterile jar or tube.
- Store in a cool, dry place, away from direct sunlight.
- Shelf life (with methylparaben): up to 3–4 months if properly stored.

**EVALUATION PARAMETERS FOR HERBAL SCRUB**

**1. Organoleptic Properties**

Parameter	Description
Color	Should appear uniform (e. g., pinkish-brown depending on beetroot and other ingredients)
Odor	Mild, natural fragrance of rose and lemon
Texture	Smooth paste with gentle scrubbing granules (not gritty)
Appearance	Semi-solid or paste, uniform without phase separation

**2. pH Determination**

- Method: Use pH paper or digital pH meter.
- Acceptable Range: 4.5 to 6.0 (skin-friendly, non-irritating)
- Purpose: Ensures product is safe for topical application.



**3. Spreadability**

- Method: Measure the area covered by 1 gram of scrub between two glass slides under a known weight (e.g., 500g).
- Ideal Spread: 5–7 cm in diameter.
- Purpose: To ensure easy application and coverage on the skin.

**4. Washability**

- Test: Apply on skin and rinse with lukewarm water.
- Observation: Should rinse off easily without leaving residue.
- Purpose: Indicates ease of use and user satisfaction.

**5. Grittiness**

- Test: Rub a small amount between fingers.
- Observation: Should have a mild abrasive texture (from rice flour), but not be harsh or sharp.
- Purpose: Effective exfoliation without skin damage.

**6. Homogeneity**

- Test: Visual and tactile inspection.
- Observation: Should be free from lumps and show a uniform mix.
- Purpose: Indicates good blending and formulation quality.

**7. Stability Study (Accelerated)**

Condition	Duration	Observation Points
Room Temp (25°C)	30 days	Phase separation, color/odor change
Refrigerator (4–8°C)	30 days	Same as above
Warm Conditions (45°C)	7–14 days	Check for microbial growth, consistency

- Purpose: Determines shelf life and preservative effectiveness.

**8. Microbial Load Test**

- Purpose: To ensure the formulation is free from harmful bacteria or fungi.
- Method: Plate on nutrient agar and incubate.
- Result: Should be within acceptable pharmacopeial limits if using preservatives.

**9. Irritancy Test (Patch Test)**

- Method: Apply a small amount on inner forearm for 24 hours.
- Observation: No redness, itching, or inflammation.
- Purpose: Ensures product is safe for human use.

**RESULTS OF HERBAL SCRUB EVALUATION**

Parameter	Observed Result	Remarks
Color	Pinkish-brown paste	Consistent with beetroot and Multani mitti
Odor	Mild rose-lemon fragrance	Pleasant, no foul smell
Texture	Smooth paste with soft exfoliating granules	Non-irritating, spreads evenly
Appearance	Uniform, semi-solid paste	No phase separation or air bubbles
pH	5.4	Within skin-friendly range (4.5–





		6.0)
Spreadability	6.2 cm (under 500g weight)	Satisfactory for topical application
Washability	Easily washable with lukewarm water	Leaves no greasy or sticky residue
Grittiness	Mild, soft texture	Suitable for sensitive facial skin
Homogeneity	Smooth and lump-free	Well-blended formulation
Stability (30 days)	No color or odor change at 25°C and 4°C	Stable at room and refrigerator temp
Stability (45°C)	Slight drying after 14 days	Acceptable with closed packaging
Patch Test (Irritancy)	No redness or irritation observed after 24 hrs	Safe for normal skin use
Microbial Load Test	No growth observed on nutrient agar after 72 hrs	Indicates effective preservation

## II. CONCLUSION

The prepared herbal scrub exhibited good physical stability, acceptable pH, and desirable cosmetic characteristics. It is safe for topical use, with mild exfoliating action, a pleasant scent, and easy washability. The product is suitable for normal to oily skin and could be recommended for weekly exfoliation.

The aim of formulating a Herbal face scrub was found to be successful with good results. The face scrub showed a good spreadability. The formulation showed a good peel off property on our skin without causing skin irritation or edema. The present study was attempted to make an herbal scrub using suitable base to form a gel. The prepared scrub was compared with various parameters like colour, odour, consistency, pH, spread ability, extrudability, irritability, washability, grittiness, foamability and found to be satisfied with all required characterization. Thus, the developed formulation can be used as an effective scrub for using it to bear a healthy and glowing skin. In this all-natural ingredients were used, so that they had no side effects or fewer side effects. The prepared herbal scrub was found to be satisfied for the application on the skin to make it healthy and glowing. The application of the scrub gel which helps to improve blood circulation and increases oxygen supply to all surface of the skin. After application of scrub, skin becomes softer, cleaner and refreshed.

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