



## **Review: Herbal Face Scrub for Skin Exfoliation.**

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### **ABSTRACT :**

Many of the marketed items when applied on the skin create dryness of skin after its long-term use which results in reduced life of skin problems like acne and redness. The usage of scrubs made entirely of herbal substances can help solve this issue by improving the skin's washing, softening, moisturising, and fairness capabilities. Natural or herbal cosmetics are those that contain natural substances to prevent wrinkles, acne, and oil secretion. The majority of plant parts used in herbal cosmetics include antibacterial, antioxidant, and anti-aging qualities. Cosmetics that alter the biological function of the skin are known as cosmaceuticals, and the safest products to use on a regular basis are herbal cosmetics with no known negative effects.

(Keywords: antioxidant, phyto ingredients, herbal scrub, exfoliants, acne, skin)

### **INTRODUCTION:**

Herbal Cosmetics, or Items as they are called here, are made with several approved cosmetic substances to provide a base upon which one or more herbal ingredients are used to provide, in a sense, individualised remedial preferences. Cosmetic manufacturers began using the term "cosmaceuticals" in the 1990s to refer to over the counter skin care products that added active ingredients derived from plants, such as coenzyme, hydroxy acid, retinoic acid, and ascorbic acid, to claim therapeutic benefits. These active components perform multiple goals including improvement in skin flexibility, delay in skin ageing by minimising the wrinkles, protection against UV radiation by antioxidant property and to control destruction of collagen correspondingly.

The Greek term "kosmetikos," which means to have strength, order, and decorating ability, is where the word "cosmetic" originated. The story of how beauty care products came to be tells the story of humankind's creation. In ancient times, around 3000 BC, man employed colour to entice the animals he desired to pursue. He also used colour to ward off attacks from his peers and to adorn his body to frighten them into submission (whether human or animal). The health, routines, employment schedules, weather, and maintenance were factors that affected people's skin and hair beauty. Summertime dehydration from prolonged heat contact to the skin results in wrinkles, blotches, blemishes, pigmentation, and sunburns. Extreme cold throughout the winter can damage skin and hair, resulting in cracks, wounds, maceration, contamination, and hair loss. All age groups have skin disorders, which can be brought on by exposure to chemicals, biological toxins found in the environment, or organisms. In addition, some skin diseases might worsen as a result of malnutrition. The ayurvedic system's compilation of natural data and information was their sole source of support. Ayurvedic medicine has made use of a variety of plants and herbs to create cosmetics that are both aesthetically pleasing and shield against environmental factors. The Drug and Cosmetics Act defines beauty care products as things that are meant to be rubbed, poured, powdered, sprayed, or presented into other different products.

### **DEFINITION OF COSMETICS.**

The Drugs and Cosmetics Act defines cosmetics as articles that are meant to be cleaned, beautified, advanced attractiveness, or altered in appearance; they can be rubbed, poured, sprinkled, sprayed, inserted into, or applied in any other manner to the human body or any part thereof. The cosmetic is exempt from the drug licence preview.

#### **Definition of Herbal Cosmetics:**

These cosmetics products are made with plant based ingredients that have cosmetic properties. The Use of botanicals in beauty care products has increased recently, mostly because of their non-toxic and moderate impact. Cosmetic products employ a combination of natural and phyto-ingredients. Organic goods Add extracts, oils, secretions, and so forth. The term "phyto-ingredients" refers to pure components that come from various processes.

#### **What is Exfoliant?**

Exfoliation is the process of removing dead skin cells from the skin and allowing new ones to grow. A face scrub does this by using tiny particles, beads, or chemicals. Exfoliant refers to the agents employed in exfoliation. Exfoliating agents work by removing dead skin cells and increasing blood flow to

the skin, leaving it radiant and refreshed. It helps to keep the pores of the skin clean by keeping the face free of oils, dirt, and dust. There are two methods for skin exfoliation. Eliminating the oldest dead skin cells from the skin's surface is the process of exfoliation. The Latin word exfoliate is where the word originates (to take off leaves). Using mechanical or chemical methods, such as chemical peels or microdermabrasion, exfoliation is a necessary step in every facial. It is common to see exfoliants promoted as treatments.

#### Herbal Cosmetics Tailored for Different Skin Types

##### 1. For Dry Skin

Examples of Herbs:

1. Triphala
2. Tulsi
3. Glycyrrhiza glabra combined with sesame oil
4. Fruit-based face mask
5. Pulp from banana or avocado

##### 2. For Sensitive Skin

Examples of Herbs:

1. Curcuma longa
2. Triphala
3. Azadirachta indica mustaka
4. Nimba blended with coconut oil
5. Fruit-based face mask
6. Pulp from banana or pineapple

##### 3. For Oily Skin

Examples of Herbs:

1. Tulsi
2. Nimba
3. Curcuma longa
4. Fruit-based face mask
5. Pulp from strawberry or papaya

#### Essential Characteristics of a Scrub

- Non-toxic
- Contains fine gritty particles
- Mildly abrasive
- Non-irritating
- Non-sticky
- Capable of eliminating dead skin cells

#### Benefits of Using a Face Scrub:

1. Promotes healthy, radiant skin, minimizes pores, reduces breakouts and acne, conceals wrinkles, enhances product absorption, improves tanning, and maintains skin pH balance.
2. Scrubbing effectively removes dry or dead skin cells from the skin's surface, making it a crucial part of facial skincare routines.
3. It addresses various skin issues while boosting blood circulation, contributing to a vibrant and healthy complexion.
4. Mechanical exfoliation is achieved through the use of abrasive scrub cleansers.

#### Drawbacks of Using a Face Scrub:

1. Aggressive scrubbing techniques and harsh chemicals can lead to skin irritation, including redness and inflammation. Individuals with sensitive skin may experience allergic reactions to synthetic scrub ingredients.
2. Excessive scrubbing can result in open pores, making the skin vulnerable to pollution and UV exposure.
3. It may also increase susceptibility to infections and tanning.

#### BENEFITS OF EXFOLIATING YOUR SKIN:

##### 1. Achieving Pristine Skin:

Exfoliation effectively cleanses the skin, eliminating dirt, oil, and sweat. Conventional cleansing products often fail to remove all the impurities lodged in the pores, whereas scrubbing accomplishes this task efficiently.

##### 2. Eliminates Flaky Skin:

Flaky skin can lead to dry patches and the accumulation of dead skin cells. Regular exfoliation can significantly improve the condition of flaky skin.

##### 3. Aids in Dead Cell Removal:

The presence of dead skin cells can render your complexion dull and fatigued. A gentle scrub can help eliminate these cells.

##### 4. Enhances Skin Radiance:

Exfoliating your skin can contribute to a radiant glow.

##### 5. Diminishes Dark Spots:

Utilizing a scrub twice weekly can yield noticeable results, particularly on areas such as knuckles, elbows, and knees.

##### 6. Reduces Acne Scars:

Exfoliation is beneficial in diminishing the appearance of acne scars.

##### 7. Prevents Ingrown Hairs:

Ingrown hairs are a common issue, and regular scrubbing serves as an effective preventive measure.

##### 8. Promotes Smooth Skin:

Smooth skin is essential for an enhanced appearance. Exfoliation not only renders the skin visibly smooth but also ensures it feels soft and well-hydrated.

##### 9. Enhances Skin Texture:

Regular scrubbing results in clean, smooth skin with an improved overall texture.

#### 10. Enhances Radiant Complexion:

By eliminating flakes, dead skin cells, imperfections, and accumulated impurities, the scrub's natural skin-brightening components significantly enhance the results. The term "cosmetics" is derived from the Greek word "kosmos," which refers to substances intended for application to the body for purposes of cleansing, beautifying, enhancing attractiveness, or altering appearance. Since ancient times, various herbs have been employed for cleansing and beautifying the skin. There exists a wide array of cosmetics, each designed for specific functions on the skin. The skin, being the largest organ of the body, serves multiple roles including protection, moisture retention, lubrication, and temperature regulation. Factors such as environmental stressors can lead to a dull and non-luminous complexion, which can be effectively addressed through the use of scrubs. There are primarily two categories of scrubs: facial scrubs and body scrubs. Facial scrubs typically contain higher oil content, making them less abrasive, and they work to exfoliate and remove dead skin cells. Skin types are generally classified into three categories: dry, oily, and sensitive. With regular use of scrubs, the skin can achieve a more radiant and smoother appearance as dead skin cells are sloughed away, revealing fresh skin underneath. To protect the skin from external agents, topical applications can be directly applied. Formulations such as face masks, creams, suntan lotions, and exfoliants are created using appropriate bases. Scrubs can be applied directly to the skin or with a small cosmetic pad, and a gentle massage during application is advisable to enhance blood circulation and increase oxygen supply to the skin's surface.

**DIFFERENCE BETWEEN HERBAL AND SYNTHETIC PRODUCTS:**

Herbal Scrub	Synthetic scrub
Herbal products are completely free from all the harmful chemicals as they are naturally derived.	Synthetic product are maybe slightly harmful chemicals as they are Synthetically derived.
Herbal refer to products that are prepared from plants for their medicinal value.	Synthetic refer to product that are prepared from chemicals.
safe to use as compared to chemical-based cosmetics.	They may be harmful for sensitive skin.
Synthetic refer to product that are prepared from chemicals.	More side effect than herbal product.
E.g. Plum Green Tea gentle revival face scrub.	E.g. Cetaphil Extra gentle daily scrub.

Table:1

**Material:**

The formulation incorporates various plant materials, including roasted orange peel powder, Multani mitti, rose petals, neem powder, turmeric powder, and tulsi powder. These ingredients were sourced from the local market in Ahmednagar. Additionally, the chemical components, such as carbopol 940, methyl paraben, triethanolamine, and propylene glycol, were obtained from DSP College of Pharmacy in Walki, Ahmednagar.

**1. Orange peel powder:**

Fig:1

Synonym: Orange zest Biological Source: Derived from the dried fruits of *Citrus sinensis*. Family: Rutaceae. Description: - Color: Dark orange-red - Odor: Aromatic - Taste: Bitter Chief Chemical Constituents: Terpenes, carotenoids, flavonoids. Uses: Aids in reducing skin marks and spots, promotes skin whitening, and treats pimples and acne.

**Synonym:** Orange zest

**Biological source:** It consists of dried fruits of *Citrus sinensis*.

**family:** Rutaceae.

**Description:**

Colour- Dark orange red

Odour - Aromatic

Taste – Bitter

**Chief chemical constituents:** Terpenes, Carotenoids, Flavonoids.

**Uses:** Reduce skin marks, skin spots, help to skin whitening, Treat pimples, acne.

## 2.Multani mitti:



Fig:2

**Synonym:**Multan clay.

**Biological source:**It consists of hydrous aluminium silicates (clay minerals).

**Description:**

Colour- White

Odour - Pleasant

Taste – Pleasant

**Chief chemical constituents:** Montmorillonite, Kaolinite, Attapulgite.

**Uses:**Nourishes skin, reduce oiliness, Remove blackheads.

## 3.Almond oil:



Fig:3

**Synonym:**virgin almond oil

**Biological source:**Almond oil is extracted from the seeds of the almond tree, *Prunus amygdalus*, which belongs to the Rosaceae family.

**Description:**

Colour- clear yellow

Odour-bland

Taste-pleasant

**Chief chemical constituents:**oleic acid, linoleic acid, palmitic acid.

**Uses:**moisturising properties, sun damage and aging prevention, blood sugar control.

#### 4.Neem powder:



Fig:4

**Synonym:**Neem

**Biological source:** It consists of dried leaves of *Azadirachta indica*.

**family:** Meliaceae.

#### **Description:**

Colour - Green

Odour - Pungent

Taste - Bitter

**Chief chemical constituents:** Nimbinin, Nimbidin, Quercetin.

**Uses :**Skin toner, lightens skin blemishes, Remove blackheads.

#### 5.Turmeric powder:



Fig:5

**Synonym:**Curcuma longa

**Biological source :** It consists of dried rhizomes of *Curcuma longa*.

**family :** Zingiberaceae.

**Description:**

Colour - Yellow

Odour - Aromatic

Taste - Bitter

**Chief chemical constituents :** Curcumin, Curcuminoids

**Uses :** Reduce acne, Glowing skin, Lightens skin.

#### 6. Tulsi Powder:



Fig:6

**Synonym:** Tulsi

**Biological source :** It consists of dried leaves of *Ocimum sanctum* L.

**family :** Lamiaceae.

**Description:**

Colour - Green

Odour - Aromatic

Taste – Pungent

**Chief Chemical constituents :** oleanolic acid, ursolic acid, rosmarinic acid.

**Uses:** Prevents acne and pimples, Improve skin texture, Cleanser.

#### 7. Rose petals:



Fig:7

**Synonym:**rose

**Biological source:**Roses are flowering plant that belongs to the genus Rosa and the family is Rosaceae.

**Description:**

Colour-pink/Red

Odour-fragrant

Taste-sweet

**Chief chemical constituents:**flavonoids, phenolic acids, polysaccharides, vitamins, fatty acids.

**Uses:**treatment of inflammation, diabetes, depression, stress, etc.

**Reagent with their category:**

Sr. No	Reagent	Category
1	Orange peel powder	Exfoliante
2	Multani mitti	Cleaning oil and dust particles
3	Almond oil	Smooth effect and sunburn
4	Neem powder	Soothes inflamed and irritated skin
5	Turmeric powder	Glowing skin, moisturising dry skin
6	Tulsi powder	Anti-inflammatory, Anti-bacterial
7	Rose petal	Lighten skin tone, reduce dark spot
8	Glycerine/carbopol 940	Gelling agent
9	Methyl paraben	Preservative
10	Triethanolamine	Neutralizer
11	Propylene glycol	Moisturizer

Table:2

**Method :**

**Preparation of gel-**

Weighing the methylparaben, we dissolved it in a beaker of water. After adding carbopol 940 and vigorously stirring for a few minutes, a gel forms. Sodium Lauryl Sulphate was dissolved separately with water and was placed into the abovegel. Next came the addition of propylene glycol. In the mortar and pestle, the tamarind powder, sandalwood powder, and multani mitti were well ground. After that, the produced gel was added and mixed with the mixture of active ingredients. Triethanolamine was added last to bring the pH down.

**Preparation of exfoliant-**

The orange peel powder was used as exfoliant. The orange peel was taken into the mortar and triturate by using a pestle.



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## PREPARATION OF PLANT MATERIAL EXTRACT:

### Preparation of Tulsi extraction-

- Firstly, we collected Tulsi from the local market.
- Then dried them in Sunlight.
- After that, dissolve in water.
- Then cover it well with aluminium foil and keep it for 3 to 4 days
- After that it will be heated in a water bath at 80 degrees until the extract comes out .
- At last filter extract with the help of filter paper.

### Preparation of turmeric powder extraction-

- Firstly, we collected turmeric from the local market.
- Then dried them in Sunlight.
- After that, dissolve in water.
- Then cover it well with aluminium foil and keep it for 3 to 4 days
- After that it will be heated in a water bath at 80 degree until the extract comes out .
- At last filter extract with the help of filter paper.

### Procedure

1. Firstly, weighed all the ingredients properly
2. Then methyl paraben weight and dissolve in a beaker containing water.
3. carbopol was added and stirred continuously until it formed a gel.
4. sodium lauryl sulphate weight.dissolved separately with water
5. Then added into a gel followed by propylene glycol.
6. Then mix all ingredients in a gel.
7. Then, take a pestle mortar and firstly pour Multani mitti.powder in it.
8. After that add orange powder, sandalwood powder triturate it.
9. Add a gel into a pestle mortar.
10. At last, grind and mix all the ingredients properly.
11. Then the product was prepared and transferred to the air tight container.

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## EVALUATION PARAMETERS

**1.Appearance-**The prepared scrub was evaluated for its odour and colour. The colour was found to be yellow orange in colour and odour was found to be characteristics.

**2. Consistency-** It was found to be semisolid and homogeneity with visual observation.

**3. pH-** pH of the prepared scrub was evaluated. Small amount of the gel was applied on the pH paper and found to be 7. It is neutral in nature.

### 4. Spreadability-

When it comes to the behaviour of the gel that emerges from the tube, spreadability is crucial. It serves as a gauge for how widely the gel can travel across the skin. One glass slide had a small amount of sample on it, and another slide with 100 g of weight on it was positioned above them. The gel spread across the slide in 4 cm of time, measured and recorded in 60 seconds. It was computed using the subsequent formula:

$$S=m \times l/t$$

Where,

S= Spreadability

m=Weight placed on slide

l=Length of the glass slide

t= Time taken in seconds

**5. Extrudability-** Small amount of gel was taken into a collapsible ointment tube. One end closes and the other end keeps open. Slight pressure was applied on the enclosed side. The time taken to extrude and the amount of the gel extruded was noted.

**6. Irritability-** A small amount of the gel was applied on the skin and kept for a few minutes and found to be non-irritated.

**7. Washability-** A little quantity of gel was applied over the skin and was washed with water and it was easily washable.

**8. Grittiness-** Gel was found to have a few gritty particles

**9. Viscosity-** Brookfield viscometer was used to measure the viscosity of scrub.

**10. Foamability-** Small amount of formulation was taken in a measuring cylinder and water in it and shaken for 10 times and noted the final volume.

**11. Patch test-** Patch testing is a well established method for diagnosing the hypersensitivity as well as to determine the potential of the substance to cause allergic reaction on skin. In patch tests, reaction of formulation on skin is observed in 2-3 days.

#### Why choose a herbal scrub?

Herbal remedies have been utilized for centuries and are generally better tolerated and embraced by patients. Medicinal plants serve as a reliable and sustainable source of effective treatments for the growing global population. In addition to their safety, herbal face scrubs provide exfoliation, enhancing the skin's radiance and overall health. Unlike chemical alternatives, natural ingredient scrubs are completely safe and free from adverse effects. However, it is important to avoid daily use of face scrubs for exfoliation, as frequent application can lead to skin cell damage and roughness. Therefore, understanding the proper usage and precautions is essential. Incorporating a herbal face scrub into your skincare routine can stimulate collagen production, resulting in smoother and more vibrant skin. Furthermore, these scrubs can help prevent skin breakouts, making them a preferable option over chemical scrubs, which may expose your skin to harmful substances.

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## OTHERS- HOME-MADE REMEDIES FOR HERBAL SCRUB

### 1. Gentle Oat Scrub:

Oats, known for their soothing and anti-inflammatory properties, are particularly suitable for sensitive skin. Finely ground oats effectively unclog pores, while their natural saponins work to cleanse and absorb impurities such as dirt and oil.

- ½ cup of uncooked old-fashioned oats
- Water

Begin by pulsing the dry oats in a blender until they reach a fine consistency. Take a small amount of the ground oats in your palm and mix in water until a paste is formed. Gently massage this mixture onto your face and neck. Store any remaining ground oats in an airtight container for future use. As an alternative to water, consider using milk or yogurt, both of which contain lactic acid that acts as a chemical exfoliant. Additionally, incorporating apple cider vinegar, which contains malic acid, can enhance the brightening effects.

### 2. Honey & Brown Sugar Scrub:

Honey and brown sugar serve as natural humectants, effectively preserving moisture while providing a gentle exfoliating scrub that removes dead skin cells, clears pores, and retains hydration.

- 1 tablespoon of finely granulated brown sugar
- 1 tablespoon of raw honey, if possible

Combine the brown sugar and honey thoroughly. Using clean fingertips, apply the mixture to your face in small, circular motions, ensuring a gentle exfoliation that does not harm the skin. Rinse with warm water, and if necessary, use a washcloth to eliminate any leftover honey.

### 3. Baking Soda:

As an add-in, baking soda's ultra-fine texture serves as an effective at-home microdermabrasion suitable for all skin types. This cost-effective ingredient is also adept at absorbing excess oil, making it particularly beneficial for individuals with oily skin. To create a simple scrub, combine a small amount of your regular liquid skin cleanser with baking soda, transforming your product into a dual-purpose exfoliating cleanser.

- 1 teaspoon baking soda
- 1 teaspoon of baking soda

#### **4. Coffee & Oil Scrub:**

Used coffee grounds are gentle enough for application across the entire body, including sensitive areas such as the face. Moreover, these grounds retain a wealth of caffeine and antioxidants that enhance the skin's appearance, leaving it looking revitalized and firm.

- 1 tablespoon used coffee grounds
- 1 tablespoon oil (such as jojoba, olive, or rosehip)

Emphasizing the principles of reduce, reuse, and recycle, do not discard the coffee grounds after brewing your morning coffee. By mixing 1 tablespoon of oil with the grounds, you can create a mild, collagen-boosting scrub. Additionally, coffee scrubs, especially when infused with essential oils, are effective for areas prone to cellulite.

#### **5. Rice and Egg White Exfoliating Facial Scrub:**

Ground rice powder serves as an exceptional cleanser, enhancing skin brightness and reducing discoloration. Brown rice flour offers oil-absorbing and anti-inflammatory properties, making it suitable for both oily and sensitive skin types. For those concerned with aging, incorporating a tablespoon of ground almonds can be beneficial.

- 2 tablespoons of brown rice
- 1 egg white

Utilize a coffee grinder to finely grind the brown rice grains. Combine the ground rice with an egg white and whisk until a paste forms. Gently massage the scrub onto the skin using small circular motions to exfoliate dead skin cells. Rinse thoroughly with warm water.

#### **6. Aloe Vera Gel and Sugar Facial Scrub:**

Superfine sugar is an excellent addition to your scrub, with a finer texture being more beneficial for the skin. Aloe vera is widely recognized for its soothing and healing properties, suitable for all skin types.

Mix the two ingredients, and after gently massaging the mixture into your skin, allow it to sit for a few additional minutes before rinsing thoroughly.

- 1 tablespoon of aloe vera gel
- A sprinkle of superfine sugar

#### **7. Almond and Jojoba Scrub:**

Raw almonds are another readily available kitchen ingredient. They should be ground very finely using a coffee grinder or food processor to achieve optimal results for smoother skin. Jojoba oil is non-comedogenic, making it ideal for skin that is prone to breakouts.

- 12 raw almonds
- 1–2 tablespoons of jojoba oil

After grinding the raw almonds into a fine powder, mix in the jojoba oil and gently exfoliate the skin in circular motions. Remove the scrub using a warm washcloth.

#### **8. Flax Seed Scrub:**

Flax seeds possess anti-inflammatory properties that are beneficial both internally and externally. By combining a few ingredients with a handful of flax seeds, one can create a remarkably simple yet effective scrub.

- 1 teaspoon of ground flax seeds or flaxseed meal
- 1 tablespoon of a carrier ingredient (such as aloe vera gel, yogurt, honey, jojoba oil, or rosehip oil)

Thoroughly mix the ingredients using a mortar and pestle, and then rinse off with warm water.

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### **Conclusion:**

The formulation of a herbal face scrub has proven to be successful, yielding positive results. The scrub demonstrated excellent spreadability and effective peel-off properties without causing skin irritation or edema. This study focused on creating an herbal scrub using an appropriate base to achieve a gel-like consistency. The prepared scrub was evaluated against various parameters, including color, odor, consistency, pH, spreadability, extrudability,

irritability, washability, grittiness, and foamability, and met all necessary criteria. Consequently, the developed formulation can serve as an effective scrub for promoting healthy and radiant skin. Utilizing all-natural ingredients ensures minimal or no side effects. The herbal scrub was found to be suitable for skin application, contributing to its health and glow. The application of the scrub gel enhances blood circulation and increases oxygen supply to the skin's surface. Following the use of the scrub, the skin feels softer, cleaner, and rejuvenated.

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