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Formulation and Evaluation of Herbal Facial Scrub by Using Exfoliating Agent

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Abstract: ***Everyone needs cosmetics in order to live a happy and healthy life. Due to their lack of adverse effects, herbal cosmeceuticals are more in demand right now. People utilize variety to protect their bodies,improve their personalities, &avoid body odour, such as foot powder, lipstick, mouthwash, &complexion treatments. Items intended to be rubbed, poured, sprinkled, sprayed, injected into, &other-wise applied part body order to cleanse, enhance, promote attractive-ness, & alter appearance skin are referred to as skin care preparations. This study presents the formulation and evaluation of a facial scrub, aiming to enhance its efficacy and safety. Various natural and synthetic ingredients were selected based on their exfoliating, moisturizing, and skin-nourishing properties. The formulation process involved blending these ingredients in specific ratios to achieve an optimal balance of efficacy and gentleness. The final formulation underwent rigorous evaluation, including physical characterization, stability testing, irritation potential assessment, and efficacy testing . Results demonstrated the formulation's stability, safety, and effectiveness in promoting skin exfoliation, removing dead cells, and improving overall skin texture. This study contributes valuable insights into the development of facial scrubs with enhanced performance and safety profiles, catering to the growing demand for effective skincare products.***

Keywords: herbal cosmeceuticals, skin care preparation, facial scrub, exfoliating properties, moisturizing ingredients, skin nourishing properties.

I. INTRODUCTION

skin is the biggest organ in the body. It serves as a vital organ that shields other bodily organs. The skin acts as a barrier to shield the interior from threats from the outside, such as dirt The and bacteria found in everyday air, as well as the damaging effects of the sun, wind, and pollution. Among other microbes, the skin's natural ecology supports yeast and bacteria, which cannot be eliminated by washing. Another sense organ that can reveal information about a person's health is their skin. Since skin is composed of various elements, including lipids, carbohydrates, and amino acids, maintaining a healthy and clear complexion requires a well-balanced diet. Products used for washing, beautifying, enhancing beauty, or changing appearance are referred to as cosmetics. Cosmetics are used to improve attractiveness all around the world and come in a variety of forms. Numerous skin problems, including skin protection, sunscreen, anti-acne, and anti-wrinkle products, are developed with the intention of improving the appearance of the skin. Some people are naturally beautiful, while others have had their beauty enhanced artificially. In the contemporary environment, the use of herbal products and cosmetics has significantly increased. The market for herbal products and cosmetics is growing every day, despite the fact that synthetic materials, which again harm the environment, have significant health benefits. An exfoliating and cleaning agent for the skin on the face and body is a facial scrub. Face scrubs can help get rid of skin cells, sebum, blackheads, and whiteheads. It also encourages maintaining the appearance of skin Herbal scrubs are natural exfoliating products that have gained popularity in recent years due to their numerous benefits for the skin. These scrubs are made from a variety of natural ingredients, including herbs, fruits, and nuts, which work together to remove dead skin cells, improve circulation, and promote healthy-looking skin. Formulating an effective herbal scrub requires a careful selection of ingredients that are both safe and effective for the skin. The base of the scrub can be made from a variety of natural ingredients, such as sugar, salt, or oatmeal, which provide a gentle exfoliating effect.

A. What is Meant by Exfoliation

The word exfoliates, which means "to strip off leaves," is Latin in origin Exfoliation is the process by which a facial scrub removes dead skin cells from the skin by using tiny particles, beads, or chemicals. Exfoliants are the agents that are employed in exfoliation. Exfoliating products help the skin look younger and more radiant by removing dead cells and increasing blood flow to the skin.

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It helps to maintain a skin pore clean by keeping the face free of dust, debris, and oils. The skin can be exfoliated in two different methods. During exfoliation, the oldest dead skin cells are removed from the skin's surface.

B. Properties of Ideal Scrub

1) It is agreed that a perfect scrub should have the following characteristics.
2) It ought to be non-toxic contain tiny, grit-filled particles.
3) It should be non-irritating
4) It should be Not sticky
5) Capable of extracting dead skin cell

II. INGREDIENT USED IN FACIAL SCRUB

A. Poppy Seeds



Fig.1 Poppy seeds

1) Kingdom – Plantae
2) Class – Alkaloids
3) Family – Papaveraceae
4) Genus – Papaver

Poppy seeds are well-known for their ability to smooth and hydrate the skin, acting as a mild exfoliant and having anti-inflammatory properties that help the skin seem younger again. There are also a number of other chemical components present, such as morphine alkaloids (morphine), noscapine (thebaine), papaverine (papaverine), fiber (fiber), magnesium (magnesium), manganese (manganese), phosphorus (phosphorus), zinc (zinc), and iron (iron)

B. Lemon Peel Powder



Fig.2 Lemon peel powder

1) Synonyms-Cortex limunis
2) Biological source-Lemon peel is the outer part of the pericarp of the ripe fruits of citrus limonis burm. it contains not less than 2-5%of volatile oil.
3) Family- Rutaceae
4) Description Colour- yellow
5) Odour– fresh, clean, biting
6) Taste – sour

C. Carbopol

1) Chemical name: carbomer
2) IUPAC names- poly(acrylic acid), poly(1-carboxyethylene)
3) Molecular formula- C3H4O2
4) Molecular weight- 713.1 g/mol
5) Functional category- bioadhesive material; rheology modifier; controlled-release agent; emulsifying agent; emulsion stabilizer; suspending agent; controlled-release agent.

D. Glycerin

1) IUPAC name propane-1,2,3-triol.
2) Molecular formula- C3H8O3
3) Molecular weight is approximately 92.09 g/mol.
4) Glycerin belongs to the functional category of polyols or triols. It's commonly used in skincare products, pharmaceuticals, food products, and as a sweetener in the food industry.

E. Propyl Paraben

1) IUPAC name - propyl 4-hydroxybenzoate.
2) Molecular formula -C10H12O3
3) Molecular weight -180.20 g/mol
4) Propyl paraben is commonly used as a preservative in cosmetics, pharmaceuticals, and food products to prevent microbial growth and extend shelf life.

III. MATERIAL AND METHODOLOGY

Table No.1

Sr no	Material	Category
1	Poppy seed	Scrubbing agent
2	Leamon peel powder	Brightening agent
3	Carbopol	Gelling agent
4	Propylene glycol	Preservative
5	Glycerin	Moisturizing agent

A. Method for formulation of facial scrub:

Step 1: Preparation of Base:
Mix a suitable amount of water with Carbopol to form a gel base. Stir gently until the Carbopol is fully dispersed.
Allow the gel base to hydrate for a few hours until it reaches a suitable consistency.
Step 2: Incorporation of Ingredients:
Add the desired amount of lemon peel powder to the gel base. Lemon peel powder acts as a natural exfoliant and helps in skin brightening.
Mix in glycerin to provide moisturizing properties to the scrub.
Integrate poppyseed into the mixture for additional exfoliation benefits.
Step 3: Homogenization and Adjustment:
Thoroughly mix all the ingredients to ensure uniform distribution.
Adjust the consistency of the scrub by adding more water or gel base if needed.
Step 4: Quality Evaluation:
Evaluate the scrub for parameters like, consistency, pH, spread ability, and exfoliating properties.
Test the scrub for skin irritability, washability, and overall effectiveness.
Step 5: Packaging:
Once the scrub meets the desired quality standards, package it in suitable containers.
Label the product with ingredients, usage instructions, and any precautions.
Final Product: The formulated herbal facial scrub should offer exfoliating, moisturizing, and skin-brightening benefits.

IV. EVALUATION OF FACIAL SCRUB

A. Evaluation of Herbal Scrub

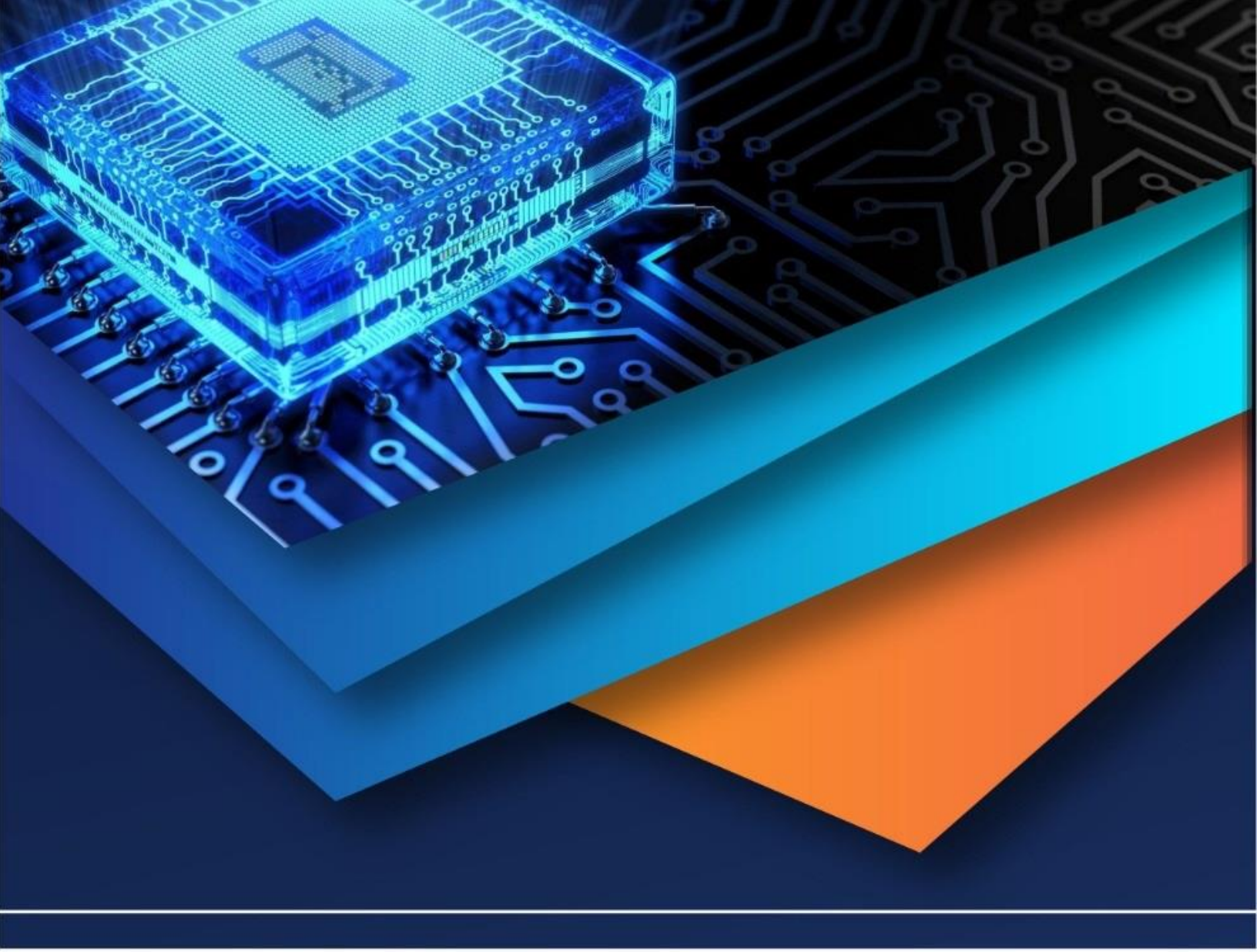
1) *Texture and Homogeneity:* To see the uniform, a less amount of the prepared scrub was rubbed between the thumb and index finger.
2) *Washability:* The test was performed on the skin, with the mixture being used on the skin and then washed with pure water.
3) *Spread Ability:* The spread ability of the formulations was evaluated by placing 1 g of material between two horizontal glass plates (10 cm, 20 cm) and measured the spreading diameter. A standard weight of 20 gm was put on the upper glass plate. Visual inspection was used to check the spreading quality
4) *Skin Irritation:* A less amount of the mixture was placed on the dorsal area of the hand and left for a sometimes before being discovered.
5) *PH:* Using pH paper, the produced scrub's pH was measured. Scrub applied in small amounts to pH paper. The pH range that was discovered was 5.5–6.

V. CONCLUSION

The study concludes that the herbal scrub formulated using natural ingredients is effective in exfoliating the skin and improving its texture and tone A natural and efficient way to exfoliate and rejuvenate the skin is to make an herbal face scrub with poppy seed and lemon peel powder. These chemicals work together to gently yet effectively remove dead skin cells, leaving the skin smooth, luminous, and feeling rejuvenated. This DIY scrub is a popular option for people looking for natural beauty remedies because it can help encourage healthier-looking skin without the use of harsh chemicals or additions in a skincare program. The scrub can be further evaluated for its stability and shelf-life. This study provides a cost-effective and natural alternative to commercial skin exfoliating products, which often contain synthetic ingredients and chemicals.

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