

Formulation and Evaluation of Polyherbal Biodegradable Microbeads Face Scruber

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Abstract: *Plant-based cosmeceuticals typically contain parts of the plant that have antibacterial, antioxidant, and anti-aging properties. Daily Cleansing does not remove dead epithelial cells and impurities trapped in the skin pores of. These dead cells and impurities affect the lifespan of the skin when they are trapped in the pores of the skin, resulting in a reduction in skin lifespan, acne and acne. The solution to this problem is to use facial scrubs once or twice a week. It contains exfoliating, mild, natural traditional ingredients. Herbal Face Wash Gel plays an important role in improving cosmetology. Composed of substances such as amino acids, fats and carbohydrates, a balanced diet is required to keep your skin clear, shiny and healthy. The use of natural ingredients to combat acne and wrinkles and to control the secretion of oil is called natural or herbal cosmetics. General face Scrubbers contain crushed seeds to remove dead skin cells, but these crushed seeds are not uniform in size and finely crushed particles cause skin to fall or damage. Overcome To solve this problem, replace the crushed seeds with granules or beads. This safely removes dead cells from the pores of the skin without damaging the skin. Making biodegradable polyherbal microbeads into face scrubber gram powder, green tea, sugar, starch, milk, skin care oils, etc. is a very good attempt. In these refined beads, the outer shell is made of Gram meal and the inner is oil and plant extract. Massage with the outer layer of this pearl will remove dead skin cells and darkening, and the oil inside will spread to the skin, contributing to the growth of new fresh cells. The result is always a young and fresh look.*

Keywords: Mild Multi-Herbal Botanical Extract, Biodegradable Microbeads, Young and Fresh Appearance, Skin Safety

I. INTRODUCTION

The skin on the face is the largest part of the body that indicates a person's health. Being a composed of ingredients such as amino acids, fats and carbohydrates, a balanced diet is required to keep your skin clear, shiny and healthy. Once upon a time, women were very conscious of their beauty and she wanted to enhance her beauty, so she started wearing clothes herself. The skin on the face is the largest part of the body that indicates the health of an individual. It is composed of substances such as amino acids, lipids and carbohydrates. A balanced diet is necessary to keep your skin clear, shiny and healthy. Natural Biodegradable Microbeads Face Scrubber is a face scrubber that uses traditional ingredients in the new format to safely and skin-friendlily remove dead cells from the pores of the skin. This scrubber replaces the ground seeds with granules or beads of scrubber. It contains an essential oil layer on the skin and grams of traditional ingredients on the outside of flour, milk, sugar, olive oil, almond oil, starch and honey., Activated charcoal and plant extract (turmeric, neem, aloe vera medicinal properties). It is biodegradable and contains the natural ingredients traditionally used in cosmetics. Herbal cosmetics are merchandise that are used to purify and enhance the pores and skin. The essential gain for the usage of a natural beauty is that it's far natural and does now no longer have any aspect results on the human frame guys have hard pores and skin and after they don't take enough care then the pores and skin turn darkish because of over publicity of the sun. It may be used for diverse functions which include cleansing, sparkling, protecting, moisturizing, softening, whitening etc. Today natural cosmetics are superb in call for because of its cappotential to nourish the pores and skin with all its necessity with none aspect results. Different forms of natural topical utility of cosmetics are withinside the marketplace which include facial mask, peel off, sunscreen gel, facial scrub etc. Facial scrub Cosmetics are to be had as diverse paperwork and every has its very own function to play at the pores and skin. Skin will become dull, non-sparkling because of diverse reasons and those can successfully be triumph over with the utility of scrubs. There are forms

of scrub getting used at the pores and skin which include facial scrub and frame scrub. These fluctuate handiest with the ratios of oil and sugar brought in every. Usage of oil is excessive in facial scrub because of which it's far much less abrasive. It gets rid of the useless pores and skin mobileular and exfoliates the pores and skin. Scrub may be used on any kind of pores and skin. Only the critical oil utilized in scrub as aspect will range with the kind of pores and skin. Skin is assessed into 3 kinds which include dry pores and skin, oily pores and skin, touchy pores and skin.

1.1 Ideal Properties of Scrub

A perfect scrub is customary to own the subsequent properties. It ought to be non-toxic, own small gritty particles, moderate abrasive, non-irritating, non-sticky, capable of cast-off useless pores and skin cells.

II. MATERIAL AND METHOD

All herbal medicines were collected from Samarth Institute of Pharmacy in Belhe in Junnar, Pune. The traditional ingredients of are used in the formulation of natural biodegradable beads for scrubbers. The ingredients used are Gram flour, olive oil, almond oil, milk, starch, dextrose, alginate, water, activated charcoal, and plant extracts. (Orange peel powder, Rose petal powder, Sandal wood powder, Aloe Vera, Turmeric) Perfume and pigments (if necessary).

2.1 Method of Synthesis

A. Preparation of Extract

The extract was prepared by cold maceration process. All the active ingredients (turmeric, aloe vera, activated charcoal, orange peel powder, Rose petal powder, Sandal wood powder,) were ground and kept in water for 72 hours. This was dried and kept in desiccator for further process.

Table 1: Ingredients of Micro beads Face scrubber

Sr. no.	Name of Ingredients	Uses	Quantity %
1	Gram flour	It removes dead skin, astringent and protective	55
2	Olive oil	Nutritive, skin tonic and emollient	8
3	Almond oil	Nutritive, skin tonic and emollient	8
4	Milk powder	Smoothing, cooling effect and improves fairness	15
5	Potato starch	Natural scrubber	14
6	Plant extract	-	5
7	Dextrose	Natural scrubber	3
8	Pigments	Colouring agent	1
9	Wax	Binder	1
10	Sodium lauryl sulphate	Foaming agent	4
11	Distilled Water	Vehicle	Q.S.





B. Preparation of Micro Beads

First mix Gram flour, olive oil, almond oil, milk powder, starch, and all the extracts into a uniform mixture. The homogeneous mixture formed with dextrose, alginate and water is mixed well again at 60 ° C. The mixture is then poured into a calcium chloride solution to form granules. The size of the granules depends on the size and pressure of the hypodermic needle. These grains were dried for 2 hours to form a bead. These beads are used as a scrub with lotions or skin media for scrubbing.

C. Preparation of Gel

Sodium lauryl sulphate was weighed and dissolved in water and this solution is added to the potato starch which is used as a gelling agent. To this add the above prepared extract and stirred it for 5 min. Microbeads added to this mixture which gives grittiness to the gel.

Table 2: Plant extract with Medicinal use and Figure

Sr. No	Plant name	Medicinal use	Quantity	Picture
1	Turmeric	Antibacterial, Antifungal, Glove to the skin	1gm	
2	Aloe vera powder	Moisturising agent, Deliver smoothing property to the skin	4 gm	
3	Activated charcoal powder	Draws bacteria poisons, soaking up excess oil, Reducing appearance of oil	1 gm	
4	Orange peel powder	Protects your cells from damage, gives your smoother skin.	2 gm	
5	Rose petal powder	Smoothens skin irritation, Reduce skin irritation.	2 gm	
6	Sandal wood powder	Anti-inflammatory, anti-microbial	2 gm	

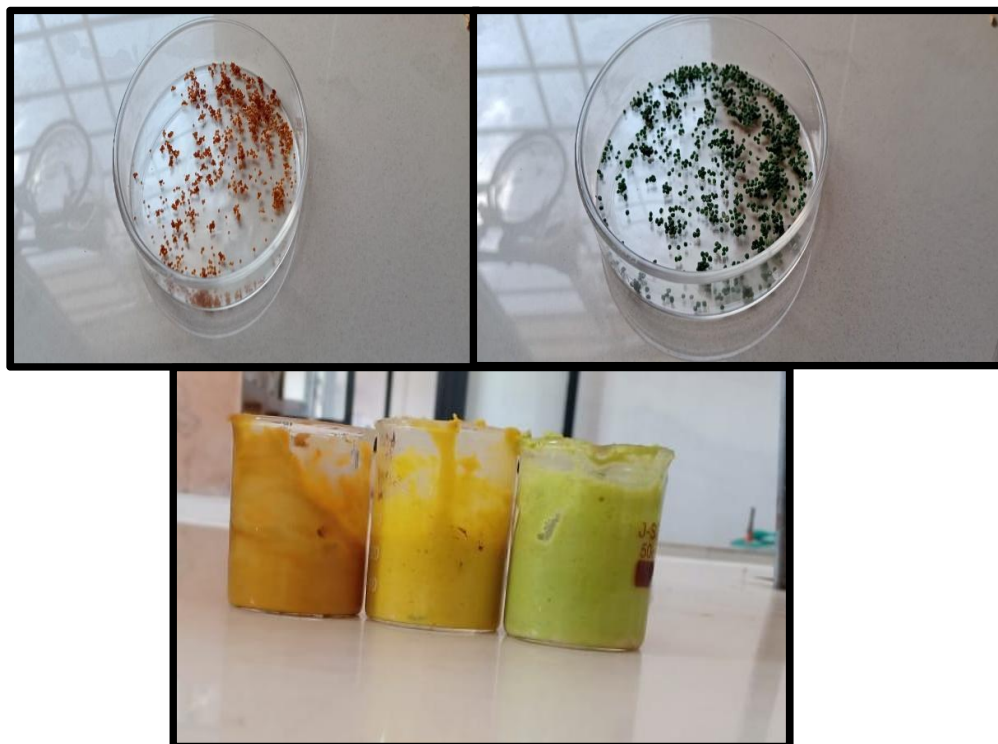


Fig. 1 Polyherbal biodegradable Micro beads

III. EVALUATION

The facial cleansers produced were evaluated for a variety of parameters, including:

- **Cleanability:** It could be easily removed by applying the formulation to the skin and washing it with manually checked water.
- **pH value:** The pH of the 1% aqueous solution of the formulation was measured at constant temperature using a calibrated digital pH meter.
- **Colour:** The colour of the face wash was visually confirmed.
- **Odour:** The formulation was evaluated for odour-induced odour.
- **Consistency:** Determined manually.
- **Extrudability:** I put a small amount of gel in a foldable ointment tube. One end closed and the other end remained open. A slight pressure was applied to the closed side. The time required to extrude the and the amount of extruded gel were recorded.
- **Spreadability:** The Spreadability of the gel was determined manually by applying the gel to the skin of with a hand or finger and gently rubbing it so that it spreads easily over the entire face.
- **Effervescent:** A small amount of gel was placed in a beaker containing water. The first capacity was recorded, the beaker was shaken 10 times and the final capacity was recorded.
- **Granularity:** Product confirmed the presence of granular particles by applying it to the skin.
- **Patch test:** Patch tests are an established method for diagnosing hypersensitivity and determining the potential for a particular substance to have an allergic effect on a patient's skin. A patch test exposes a small area of skin to a chemical in a diluted form and examines the specific effect of that chemical on the skin. In the patch test, the reaction of the pharmaceutical product to the skin is observed in 23 days. Our naturally biodegradable microbead face scrubber is cosmetic . The same patch test was performed on different skin types such as fair, dark, medium dark, medium light, and medium, with the results.

IV. RESULTS AND DISCUSSION

To take a look at the precise impact and the overall performance of those beads for the software of scrubber a few exams and few parameters are studied which can be patch test, beads length, swelling index, mechanical balance and pH.

4.1 Beads Size

The beads are of uniform size to get proper application during uses. The uniformity in size provides an advantage of proper application on the skin.

4.2 Swelling Index

Free swelling index is the growth withinside the quantity of material, with none outside constraints, on submerge in water. Swelling index is essential to decide as for the duration of moist season reasons swelling in product even as in dry season reasons shrinkage withinside the same. As this form of quantity alternate takes vicinity it's miles vital to realize its swelling index. Also, every so often to decide the purity of unique product this parameter is essential.

4.3 Mechanical Balance

The mechanical balance is good. The right mechanical electricity is essential because the outer layer have to exfoliate for the duration of rub down after which the oil is unfold at the skin. This unique collection is feasible whilst the outer layer may have the coolest mechanical electricity.

How to use?

- During its use first off moist your face with ordinary water.
- Then rub down with the scrubber for two to four mins in round motion.
- After finishing rub down wash your face with water.

Table 3: Physical evaluation of Polyherbal Micro beads Face Scrubber

Sr.no.	Parameter	Result
1	Spreadability	Good
2	Cleanability	Easily cleanable
3	Grittiness	Small gritty particles
4	Effervesant	Effervesant volume 120 ml at 5 min
5	Irritability	Non irritant
6	Extrudability	Easily extruded

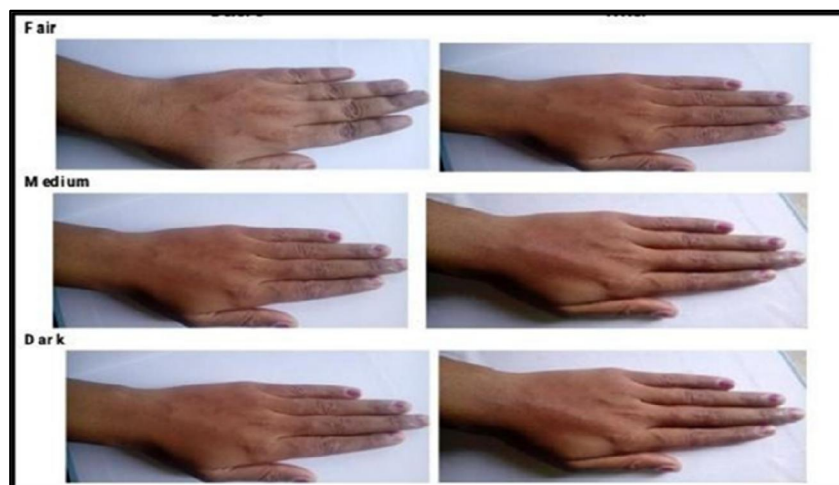


Fig no. 2 Patch test performed on three different skin type

V. CONCLUSION

In this study, an attempt was made to produce the natural biodegradable microbead Face Scrubber. The prepared exfoliating gel was evaluated with various parameters and found to be sufficient to be applied to the skin of to make it healthy and shiny without side effects. From the process, scrubber synthesis seems to be a very simple process, is gram flour, milk, sugar, olive oil, almond oil, starch, honey, activated charcoal, many plants and everything else. Extracting (turmeric, neem, medicinal value aloe vera), which is also done with traditional ingredients. This is an alternative to, as crushed seeds are sensitive to sieving. Another advantage is that pearls are biodegradable. The formed scrubber is advantageous and economical

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