

FORMULATION OF MILD NATURAL BIODEGRADABLE MICRO BEADS FACE SCRUBBER

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Abstract

Daily cleansing does not remove dead epithelial cells and impurities which are trapped in pores of skin. These dead cells and impurities affect the skin life if it trapped in pores of skin resulting the less life of skin, problems of Acne and blackheads. Solution of these problem is use of face scrubber ones or twice in week which is exfoliating, mild and contains natural traditional ingredients.

Generally face scrubber contains crushed seeds for removing dead cells of skin but that crushed seeds are not uniform in size and finely crushed particles causes for skin crashes or damage. To overcome this problem we replace the crushed seeds with granules or beads which removes the dead cells from pores of skin safely and without damaging the skin.

The mild micro beads face scrubber contains Gram flour, aloe vera, sugar, starch, milk, Skin care oil etc. in this scrubber-beads are outer cover with Gram flour and inside is oil. When we massage with this beads outer layer are exfoliate dead skin and black heads and inside oils is spread on skin which will help to growth of new fresh cells. The result is ever youthful and fresh look.

Key words: Mild, Biodegradable micro beads, Natural, exfoliating, youthful and fresh look

Introduction

Face skin is the major part of the body, which indicates the health of an individual. It consists of materials such as amino acids, lipids and carbohydrates etc so that a balanced nutrition is required for the skin to keep it clear glossy and healthy.

“Mild Natural Biodegradable Micro Beads Face Scrubber” is face scrubber with traditional ingredients in new format. In this scrubber we Replacing crushed seeds with granules or beads in scrubber which contain inner layer of oil which is essential for skin and outer is traditional material gram flour, milk, turmeric and sugar which is bio degradable and natural ingredients which was use traditionally as a cosmetics.

Marketed face scrubber content crushed seeds as a scrubbing material which damage the skin and due to this skin irritation problem are faced by all type of skin. To overcome this problem we replace crushed seeds by micro beads which are uniform in size and round in shape. When beads are rubbed on skin it gives soft feel to skin if in any case damage takes place then it will recover by inner part of beads which is oil and reduce skin damaging

In the present scenario, its need remedy for skin care without side effects. “Mild Natural Biodegradable Micro Beads Face Scrubber” opened the way to formulate cosmetics without harmful effect, which can impart the required properties to remove dead cells from skin pores. This formulation can be

used as an effective face scrubber. Natural remedies are more acceptable in the belief that they are safer with fewer side effects than the synthetic ones and gives natural traditional youthful and fresh look in new format and in low cost.

MATERIALS AND METHODS

Materials

The traditional ingredients are used for the formulation of natural biodegradable beads face scrubber. The materials used are gram flour, olive oil, milk powder, starch, dextrose, alginate, water, turmeric extract, perfume and pigments (if needed).

Method of synthesis

The formulation is as per shown in fig1. Initially gram flour, olive oil, milk powder, starch and turmeric extract are mixed to form a homogeneous mixture. The formed homogeneous mixture with dextrose, alginate, and water is again properly mixed at 600. This mixture is then injected in calcium chloride solution to form granules. The size of granules depends of injection needle size and pressure. These granules dried for 2hr. to form beads. These beads are used as scrubber with lotion or skin medium for scrubbing formulation.

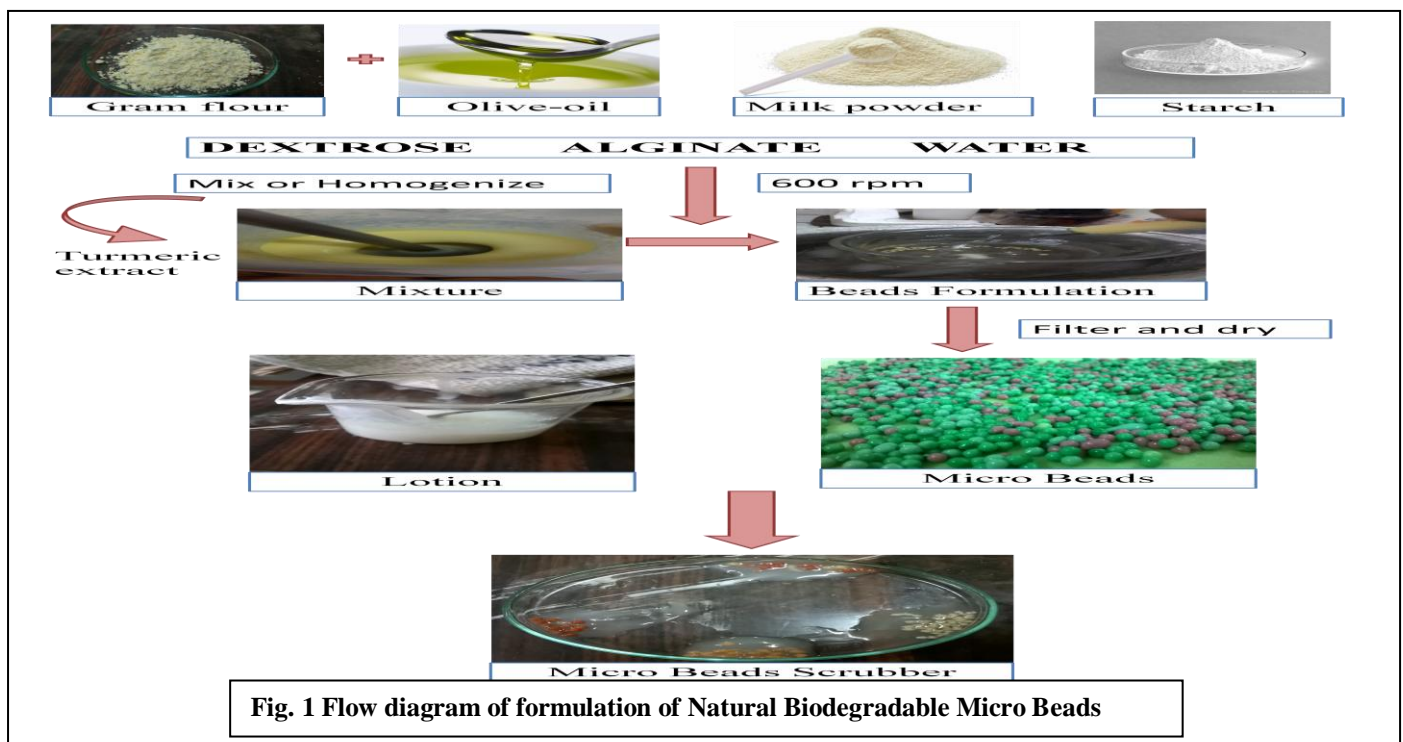


Fig. 1 Flow diagram of formulation of Natural Biodegradable Micro Beads

Table1. Ingredients of micro beads and its use

Sr. no.	Name of Ingredients	Use	QTY in %
1	Gram flour	It removes dead skin, astringent and protective	55
2	Milk powder	Smoothing, cooling effect and mproves fairness	15
3	Starch	Natural Scrubber	14
4	Dextrose	Natural Scrubber	3
5	Turmeric extract	Antiseptic and improves Fairness	0.5
6	Olive oil	Nutritive, Skin tonic and emollient	6-10
7	Pigments	Color agent	1
8	perfume	Fresh feeling	0.05
9	wax	binder	1

EVALUATION

The prepared face wash gel was evaluated for various parameters as follows.

1. Washability: Formulations were applied on the skin easily remove by washing with water were checked manually.
2. pH: pH of 1% aqueous solution of the formulation was measured by using a calibrated digital pH meter at constant temperature.
3. Colour: The colour of the face wash gel was checked visually.
4. Odour: The formulation was evaluated for its odour by smelling it.
5. Consistency: It was determined manually.
6. Viscosity: Viscosity of the gel was determined using Brookfield viscometer. The values obtained for the sample and for water were noted.

7. Spreadability: The spread ability of the gel was found manually by applying the gel on the skin with hand or finger gentle rub which easily spread through the face..

8. Foamability: Small amount of gel was taken in a beaker containing water. Initial volume was noted, beaker was shaken for 10 times and the final volume was noted.

Grittiness: The product was checked for the presence of any gritty particles by applying it on the skin.

RESULTS AND DISCUSSION

To observe the specific effect and the performance of these beads for the application of scrubber some tests and few parameters are studied which are patch test, beads size, swelling index, mechanical stability and pH.

Patch test

Beads size

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

Swelling index

Free swelling index is the increase in the volume of material, without any external constraints, on submerge in water. Swelling index is important to determine as during wet season causes swelling in product while in dry season causes shrinkage in the same. As this type of volume change takes place it is necessary to know its swelling index. Also sometimes to determine the purity of particular product this parameter is important.

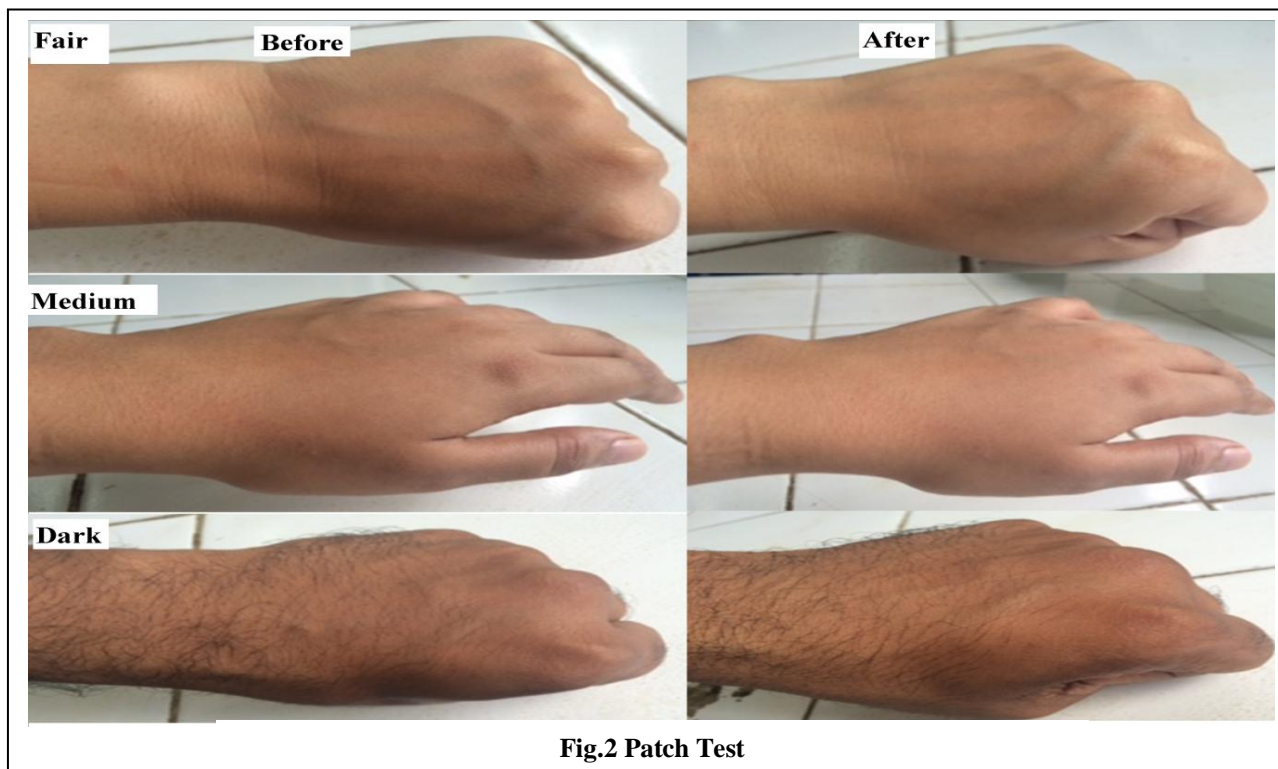


Fig.2 Patch Test

Patch testing is well established method for diagnosing the hypersensitivity as well as to determine the potential of a specific substance to cause the allergic action on patient skin. In patch test a small area of skin is exposed to those chemicals in dilute form whose specific effect on skin is to be studied. In patch test reaction of formulation on skin is observed in 2-3 days. Our product natural biodegradable micro beads face scrubber being cosmetic product we have conducted the patch test for the same on different type of skins like fair, dark , medium dark, medium fair and medium and we got the results as shown in following picture.

Table 2 Swelling Index batches

S	B	S
r	a	w
n	t	e
o	h	i
.	.	n
		g
		i
		n
		d
		e
		x
1	B	4
	2	0
	.	
	1	
2	B	6
	4	0
	.	
	2	
3	B	3
	3	0
	.	
	8	

Mechanical stability

The mechanical stability is good. The proper mechanical strength is important as the outer layer should exfoliate during massage and then the oil is spread on the skin. This particular sequence is possible when the outer layer will have the good mechanical strength.

pH

pH value is 5.4.

How to use?

- During its use firstly wet your face with normal water.
- Then massage with the scrubber for 2 to 4 minutes in circular motion.
- After completing massage wash your face with water.

Conclusion

From the process it is clear that the synthesis of scrubber is very simple process and also it is performed with all traditional ingredients like milk powder, olive oil, gram flour, starch, extracted turmeric, starch and sugar. The crushed seeds are sensitive to screen so instead of that this is alternative pathway. Another advantage is beads are biodegradable. The formed scrubber is not only advantageous performance wise but also economically it is very good as cost of this scrubber is Rs. 25 to Rs. 30 per 100gm.

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