



Formulation and evaluation of peel off mask of bael fruit

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❖ Abstract

Skin is the most delicate and vulnerable part of the human body, thus it is essential to protect it. Skin preparations include gel lotion, ointment, cream, peel of mask, and so on. Peel-off masks are dosage forms that are delicately applied to the facial skin surface and then peeled off after a few minutes. Herbal formulations are becoming increasingly popular on the global market. Herbal face masks are used to improve blood circulation, which helps to retain skin suppleness and eliminate debris from skin pores. The major advantage of herbal cosmetics is that they are non-toxic and decrease allergic responses. It is used as a cure to treat face skin problems such as tightening of skin, moisturising of skin, removing tan from the skin, glowing of skin, and removing dirt from skin pores. In this post, we created a bael fruit peel mask and tested it using several test methods. In this post, we created a mask out of bael fruit peel and tested it using several ways. Following its application, the formulation produced astounding results. The active ingredients in this composition include bael fruit pulp powder and aloe vera. Using it as an active component in a peel off mask increases its value by improving the peel off mask's role in absorbing dust particles and moisturising the skin.

❖ **Keywords.** bael fruit, aloe vera. Skin care peel of mask

❖ Introduction

The skin serves as the body's defence mechanism, shielding interior organs from solar damage. The skin is the human body's most sensitive and protective covering. Peel-off masks were created specifically for cosmetic treatments used in beauty salons. Because our formulation is ready to use, we apply our mask directly to the skin. Peel of mask may be used as a therapy for face skin issues such as black heads, dark spots, dead skin, and white heads, and it is very useful for opening blocked pores, removing debris, and closing them. Its primary function is to boost metabolism due to its occlusive impact on the skull. The most crucial quality of this mask peel is its ability to absorb moisture. Herbal formulations, as opposed to synthetic formulations, are simple, economical, have fewer side effects, and are environmentally friendly.

Because the skin is a very sensitive and protective layer of the human body that is exposed to environmental pollution, it is critical to protect the skin. As a result, taking care of facial skin is required to overcome the problem linked with it, one of which is taking care of facial skin by using face masks. The benefits of face masks include skin tightening, moisturising, and nourishing. Peel-off gel masks are convenient since they are easy to peel off and lift like an elastic membrane. *Aegle marmelos* L. (Family: Rutaceae) is a common plant in several parts of India¹. The plant is known by numerous names, including Bael, Bengal quince, Golden apple, Wood apple, and others. This drug contains a variety of phytochemicals such as alkaloids, tannins, essential oils, gums, resins, coumarin, and polysaccharide, making it effective for a variety of diseases. Additionally, various studies on bael reveal that it contains a variety of nutritional elements such as phenolic acids, flavonoids, alkaloids, tannins, terpenoids, and coumarins. Aside from these, amino acids, fatty acids, a variety of organic acids, minerals, carbohydrates, vitamins, and fibres make bael a highly nutritious fruit with numerous health benefits. This plant's fruits, stem, bark, and leaves all have therapeutic characteristics and are used to treat different eye and skin ailments. The nutritional value of Bael fruit is far more than that of other fruits. Bael has several therapeutic benefits, but because it is a seasonal fruit that is only accessible in May and June, it cannot

be utilised all year. Xanthotoxol, Imperatorin, Marmelin, Marmesin, Psoralen, and Allo-imperatorin are the main components of bael fruit.

❖ **Aegle Marmelos-L**

Family – Rutaceae

Is a plant that is commonly distributed across India. Aegle marmelos correa is also called as bilva, sriphal, or shivadruma (the Shiva tree in sanskrit). This medication contains a number of phytochemicals, including alkaloids, tannins, essential oils, gums, resins, coumarin, and polysaccharides. This plant's fruits, stems, bark, and leaves are all edible. It has therapeutic characteristics and is used to treat a variety of eye and skin disorders..

Bael fruit is a seasonal fruit that is only accessible in May and June and cannot be utilised all year. Xanthotoxol' imperatorin marmelin marmesin psoralen.allo- imperatorin are the major constituents of bael fruit. The fruit was traditionally used to cure diabetes, respiratory problems, inflammation, dysentery, and diarrhoea. Aloe vera has been recognised and used for generations for its healing, medicinal, and skin-care benefits. Miller family asphodelaceae aloe barbadensis Fibres, organic acids, minerals, monosaccharides, and polysaccharides are the main components of aloe vera.

❖ **Uses**

The moisturising ingredient provides skin smoothening properties. Get rid of dead skin cells. Sunburn treatment for acne Rights deterioration Aloe vera is an excellent moisturiser for the skin. Aloe vera rejuvenates the skin, moisturises it, and maintains the skin layer appearing young at all times. Aloe vera contains antimicrobial action, which means it can help with acne and pimples. Aloe vera contains antibacterial properties, making it perfect for treating acne and pimples.

Peel mask is applied as a liquid film that is lightly smeared over the face with fingertips and peels off as a thin plasticized film after full drying without leaving any residues. The peel of mask is a gel-based skincare cosmetic preparation that develops a clear Elastic film coating after being applied to the skin for a certain period of time before drying out and being peeled off. The usage of a peel off face mask can assist to shrink pores and rejuvenate and cure facial skin of wrinkles, ageing, and acne.

❖ **Benefits of applying peel off face masks**

- a. It nourishes the skin and aids in the reduction of acne and blackheads.
- b. The natural elements in it assist to decrease acne and blackheads.
- c. Face masks often remove dead skin cells.
- d. These face masks have a calming and relaxing effect on the skin, and they assist to restore the skin's lost shine and radiance in a short period of time.

❖ **Objective Peel off mask:**

1. Having a balanced, toned, and healthier skin requires this peel off mask formulation and development to operate by eliminating dirt, germs, debris, and general impurity.
2. This peel-off mask is designed to remove the top layer of skin while sloughing away dull dead skin cells. This leaves skin feeling smooth and looking fresh and glowing. The purpose of this peel off mask that when the mask dries off on your skin and becomes tighter, it also extracts dirt, bacteria, blackheads and whiteheads.
3. This mask contains orange peel powder, which exfoliates the skin by removing dirt, pollutants, and dead skin cells.
4. The charcoal peel off mask absorbs excess oil from the skin, making it an outstanding product.

❖ **Materials and methods :**

- Bael fruit powder
- orange peel
- Aloe vera
- Turmeric powder
- Polyvinyl alcohol (PVA)
- Glycerine
- Polyethylene glycol (PEG)

- Polysorbate(tween twenty)
- Methanol
- Distilled water
- Ascorbic acid

❖ **Materials :**

1)Bael fruit powder:.



Fig.1 Bael fruit powder:.

Scientific name : Aegle marmelos correa

Synonym: bael fruit ,bel, indian bael' bengal quince'belan.

Family . Rutaceae

Chemical constituents.; Xanthotoxol' imperatorin, marmelin' Marmesin psoralen Allo imperatorin ,

Uses:

- 1) It is used as the remedy to treat facial skin related problems.
- 2) Tighting of skinMoisturizing and tan removal of skin

2.Orange peel powder



Fig2.Orange peel powder

.Scientific name: Citrus reticulate.

.Synonym: Sweet orange.

.Family: Rutaceae.

Chemical constitute: Limonene (90%), Citral(4%), Vitamin C, Pectin, Hesperidine, Aurantimaricin

Aurantimaric acid, Octanol (39%), Decanal (42%), Monoterpene (91%) & contains no less than 2.5% volatile oil.

Uses:

- 1) Lighten and brighten skin.
- 2) Cells build up around the pores enhances the shadows and make the pores appear larger.
- 3) Hydrates Dehydrates skin.
- 4) Promotes healthy skin glow It prevents the skin from free radical damage, skin hydration and oxidative stress. Also it has instant glow property prevent acne, blemishes, wrinkles and aging.

3.Aloevera ;



Fig 3: Aloevera

Scientific name: Aloe barbadensis.

Synonym:aloe, kumari.

Family; Asphodelaceae.

Chemical constitute: Amino acid, vitamins, lipids, sterols, tannin and enzymes, phenol, saponin, antithraquinones.

Uses:

- 1) Moisturizing agent delivers smoothening property to the skin.
- 2) Remove dead skin cells.
- 3) Treating acene, sunburn.
- 4) Rights ageing.

Aloe Vera is a great moisturizing intended for a skin. Aloe Vera rejuvenates skin, hydrates this and keeps skin layer looking fresh all the time. Aloe Vera has anti-microbial activity rendering it ideal to deal with acene and pimples. Aloe Vera powder contains several nutrients like glycerin, sodium palmate, sodium carbonate, sodium pain kemelate, sorbital,

4. Turmeric powder



Fig 4. Turmeric powder

Scientific name- curcuma longa

Synonym: Turmeric root, wid curcuma.

Family: Zingiberaceae.

Chemical constitute: Curcumin I, Curmumin II, III, dihydrocurcumin, 3-6% polyphenolic compounds, curcuminoid's, Demethoxy curcumin and bisdemethoxycurcumin.

Uses:

- 1) Antibacterial activity.
- 2) Antifungal activity.
- 3) Also adds glow to the skin.

Turmeric is mostly used to revitalise the skin. It reduces the appearance of wrinkles and has antibacterial, antimicrobial, and anti-inflammatory qualities. It is one of the top sources of blood purifier. It is beneficial in the treatment of acne owing to its antiseptic and antibacterial characteristics, which battle pimples and breakouts and give your skin a young look. It also reduces sebaceous gland oil output.

preparation of formulation were used of analytical grade.

Ingredients	Quantity
Bael fruit powder	2.50 gm
Alovera	5 ml
Orange peel powder	1 gm
Turmeric.	0.1 gm
Polyvinyl alcohol	23.33 gm
Glycerine	25 ml
Polyethylene glycol	8.3 ml
Polysorbate.	0.8 ml
Methanol.	1.66 ml
Ascorbic acid	0.16 gm
Distilled water	100 ml

❖ Preparation of peel face mask

➤ Phase 1

This phase involves the addition of 23.33 gm of polyvinyl alcohol to distilled water 100 ml in the beaker and heat till the PVA soluble with a constant vigorous stirring further this mixture is allowed to cool down.

➤ Phase 2

A mixture of glycerine and PEG glycerine 25 ml and PEG 8.3ml added to phase 1 at 40 degree Celsius temperature and mix well

➤ Phase 3

Add 0.83 ml (tween 20) shift ascorbic acid through # 32 sieve

➤ Phase 4

Add methanol 1.66 ml and add distilled water with 0.16 gm ascorbic acid into the phase 3 mixture and mixed well.

➤ Phase 5

Add drug bael pulp Powder 2.50 gm turmeric powder 0.1 gm orange peel powder 1 gm added and again 5 ml alovera gel.

❖ Evaluation Parameters

- 1. Physical Evaluation of Peel off mask** - Physical factors like as colour, odour, and consistency were thoroughly tested by putting it to human skin..
- 2. Homogeneity** -The homogeneity test is used to determine particle uniformity and even particle dispersion on the preparation. They were examined visually for their appearance and the existence of any aggregates by applying the formulation on glass or transparent material..
- 3. pH** - Using pH paper, the pH value of the topical peel off mask was established.
- 4. Drying time** - The drying time test was carried out by equally putting a mask on the back hand. A timer was used to time how long it took for the preparation to dry..
- 5. Irritation test** - The irritant test is performed by putting a prepared peel off gel mask to the skin of the hands. The mask is put on the back hand for 15 minutes to observe the irritation reaction such as swelling, itching, and the appearance of redness on the skin..
- 6. Spreadability test** - A total of 1gm of peel off preparation was placed between the two glass slides, and a weight of 100 gramme was placed on the glass slide for 2 minutes to compress the sample to a uniform thickness and measure its diameter.
- 7. Washability test** - After applying the formulations to the skin, the ease and extent of washing with water were manually assessed. Physical stability testing of the formulation - Stability testing was performed at room and cold temperatures. The physical appearance was documented during the visual examination at each temperature.

❖ Result of peel of face mask

Table the prepared peel of face mask was evaluated and data was reported in table

Sr.no.	Test	Result
1	Colour	Pale yellow
2	Consistency	Smooth and sticky
3	State	Semisolid
4	pH	5
5	Irritancy test	no irritation effect shown
6	Spreadability Test	smooth and light to spread
7	Peel of test	Peelremoval from skin easily without breaking
8	Hoogeneity	Homogeneous
9	Peeling timemin	(thick layer)10+_1
10	Peeling time min	thin layer 6+_1
11	Washabilty	Washable

❖ CONCLUSION

We discovered that the formulation was substantially more stable at room temperature and had good flow characteristics in our testing. Volunteers provided positive comments on the formulation of the Bael fruit dry pulp peel off mask. This composition is suitable for all skin types and causes no irritation. The comments also suggested that the formulation can improve skin cleaning by eliminating dead skin on the surface and provides a moisturising impact to the skin. This data will be used for batch scale up and product refinement by evaluating more parameters.

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