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Design and Development of Lemon and Pomegranate Containing Peel Off Mask

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ABSTRACT

Peel- off masks are basically skincare products that help in absorbing redundant oil painting from your face. Herbal cosmetics are used by elders to enhance beauty and minimize skin problems like saturation, acne, blankness, wrinkles. Herbal cosmetics are beauty products that decide their desirable physiological effect, similar as cheering, anti-inflammatory, hydration, antiaging parcels. Peel off mask is generally medication that spread over face as a thin subcaste using cutlet or spatula. formerly it fully dried, the liquid film peels off from the face. Both bomb and pomegranate help ameliorate skin health by reducing oxidative stress and promoting collagen conflation. The end of study was to prepare effective peel of mask with using bomb(lemon) and pomegranate factory excerpt. Medicinal shops have an important part for the health of individualities and communities. These shops have great medicinal value, like colorful chemical substances which produce physiological action on the mortal body. Medicinal shops contain numerous chemical composites similar as alkaloid flavonoids, glycosides, saponins, resins, oleoresins, sesquiterpene, phenolic composites, fats and canvases.

Keywords: *Citrus limon, Skin conditions, Pomegranate seed*

1. INTRODUCTION

Peel off masks remove dead skin cells and dirt from the top subcaste of your skin. In simple terms, peel-off masks are physical exfoliants. These work to pull out both papules and blackheads, as well as reduce open pores, fine lines, and wrinkles. Although it depends on your skin type and enterprises as well as the type of mask you use, peel-off masks generally reduce dullness and give your skin a smooth texture. Now that you know the peel off mask uses, let's learn the benefits. A peel- off mask is generally medication that spread over the face as a thin subcaste using the fritters or spatula. Once it fully dried, the liquid film peels off from the face, leaving behind a thin, plasticized film without any residue. It effectively cleans pores, removes skin contaminations, and tightens, rejuvenates, and heals facial skin. Also, peel-off masks may give slight moisturization while enhancing the occlusive effect, which promotes increased blood inflow, activates skin cells, and facilitates contamination junking. Acne is a current and patient seditious skin issue that targets sebaceous glands. It generally arises during nonage and troubles individualities aged 12 to 25. According to the Global Burden of Disease report, around 85 of teenagers and youthful grown-ups encounter acne vulgaris (1)

Peel of mask are high- quality greasepaint masks which have been developed specifically for ornamental treatment in the beauty salon. They're mixed with Ocean Mineral Activator and are incontinently applied onto the face and neck, but also the neckline and e.g. hands, where they form commodity akin to a alternate skin and impress with their ferocious effect. Whilst the mask sluggishly hardens, humidity collects in the wanton subcaste beneath the elastic mask film, which is impermeable to state and water. At the same time, the peel-off masks' active substances and fresh active substances, e.g. from ampoules, are suitable to access particularly well into the skin and intensely supply the substances it requires within a short space of time. Peel off facial masks, grounded on polyvinyl alcohol (PVA), are phrasings that, after operation and drying, form an occlusive film over the face. After removing, they give scrap, tensor and moisturizing goods, removing dead cells, remainders and other accoutrements deposited on the stratum corneous. when compared to the unfermented excerpt, furnishing benefits to the ornamental phrasings like anti-aging effect, humidity, tensor action and emollience. The skin- smoothing and pliantness- enhancing effect is revealed after just one operation. Peel off Mask gently stimulates the metabolism due to its occlusive effect. Waste products and accumulated towel fluid is fleetly transported down (2). A significantly bettered skin profile is fleetly achieved. Skin is the defensive subcaste of the body exposed to environmental pollution hence, it's essential to cover the skin (3). Peel off mask can be used as a remedy to treat facial skin related problems similar as wrinkles, ageing, acne and it can also be used to close the pores as the open pores can beget deposit of dust and affect in white heads (4). Peel off mask can be used for sanctification and moisturizing the skin. utmost of the face peel off mask is prepared by polymers

which can form thin subcaste on face. Peel off mask is available in gel form and dry form. Dead skin cells can be removed by applying peel off mask. Mask can remain on the face for 15- 20 twinkles and the duration can be varied depending on the constituents used.

The peel off mask benefits includes (5)

1. furnishing a natural gleam Peel- off masks constrict open pores. This promotes skin tightening and trimming once the mask is removed. The skin will begin to look further radiant. This is one reason why people frequently calculate on a peel-off mask before attending marriage observances or parties.

2. Removing facial hair -That's right! occasionally your face may appear uneven due to facial hair. Some of these little hair beaches are thick and relatively visible on your face. This can hide the original complexion of your face and make it look dull. A peel-off mask comes to the deliverance to remove any fine hair on your face.

3. Great for unctuous skin Peel- off masks are great picks for those who have unctuous and papule-prone skin. They can help absorb redundant oil painting from your skin's face by unclogging the pores.

4. Reducing skin problems. -They're amended with antioxidants can be salutary in perfecting skin problems like pustules, acne, saturation, fine lines, and wrinkles.

Lemon-:

Botanical Name The lemon (Citrus limon) is a species of small evergreen tree in the Citrus rubric of the flowering plant family Rutaceae (6)

Acne treatment

• Lemon juice's pungent rates can help with acne.

• Antimicrobial goods failures have antimicrobial goods that may help with inflammatory acne.

• Skin spot or hair lightening Lemon can buck up skin tone and lighten dark spots.

• Psoriasis and dandruff treatment Lemon peels can be used to treat these conditions.

• Increased collagen Lemon's vitamin C content can rejuvenate and lighten skin.

Pomegranate

Botanical Name The pomegranate (Punica granatum) is a fruit- bearing deciduous shrub in the family Lythraceae, subfamily Punicoideae (7)

Uses

• principally, it serves to strain skin, conduct a affable scent, and amp or 'tone' the skin. This extract harnesses the substantial antioxidant content of the fruit, performing to cover the skin from environmental stressors and damage(8).

• Pomegranate benefits the skin by acting as a great detoxifying agent that removes venoms from the skin. It gives you rotund and supple skin and protects the epidermis. Thus, skin cells are regenerated and restored(9).

2. MATERIAL AND METHODOLOGY

***Methods* -**

1) Selection of active (10,11)

Pomegranates contain high situations of a different range of phytochemicals. These include polyphenols, sugars, adipose acids, sweet mixes, amino acids, tocopherols, sterols, terpenoids, and alkaloids. Pomegranate juice is a good source of total sugars, mainly fructose and glucose, and organic acids analogous as ascorbic acid, citric acid, fumaric acid, and malic acid(12). failures contain numerous phytochemicals, including polyphenols, terpenes, and tannins. Lemon juice contains slightly farther citric acid than lime juice (about 47 g/ L), nearly twice as important as grapefruit juice, and about five times as much as orange juice.

2) Collection and Authentication

Oil authentication is a quality assurance process that ensures the correct plant species and plant corridors are used as raw paraphernalia for herbal medicines. The proper authentication of herbal raw paraphernalia is critically important to the safety and effectiveness of herbal medicines(13). Pomegranate and Lemon were bought from the original request and authenticated in botanical department by botanist.

3) Extraction method

a) Vacuum distillation

Vacuum distillation is distillation performed under reduced pressure, which allows the sanctification of mixes not readily distilled at medium pressures or simply to save time or energy. This fashion separates mixes predicated on differences in their boiling points(14). This fashion is used when the boiling point of the asked conflation is delicate to achieve or will beget the conflation to decay. Reduced pressures drop the boiling point of mixes. The reduction in boiling point can be calculated using a temperature- pressure nomograph using the Clausius Clapeyron relation. (15)

b) Soxhlet extraction

Soxhlet birth is a continuous solid/ liquid birth. A solid which contains the material to be pulled is placed in what is called a thimble. A thimble is made from a material which will contain the solid but allow liquids to pass through. A lot like sludge paper. The thimble containing the material is placed in the Soxhlet extractor. An organic soap is also toast at affluence. As it boils, its vapor's rise and are condensed by a condenser. (16)

4) Selection of base (17)

main ideal of the present study was to prepare of Lemon and Pomegranate Plant Extract Containing Peel off Mask.

a) Polysorbate 20- Solubilize Polysorbate 20 is a synthetic conflation considerably used in skincare and cosmetic products. It functions primarily as an emulsifier and surfactant, helping to blend oil painting oil and water.

b) Polyvinyl Alcohol- Film Former Polyvinyl alcohol is a synthetic polymer of vinyl alcohol that functions in cosmetics as a gel-based thickener, film-former and binding agent.

c) Xanthan Gum- Thickening Agent Xanthan slush is an important element in skincare. It's used as a binder, emulsion stabilizer, surfactant, skin conditioner, and viscosity increaser.

d) Butylene glycol- Humectant It's the clear liquid acts as a humectant and one of the most effective moisturisers

e) Sodium Hydroxide- corrective Sodium hydroxide is a pH balancer used in a wide range of beauty and skin care particulars. It's used to balance and maintain the pH situations of skin care products.

f) Distilled Water- Solvent It's universal solvent acts as hydrating agenteuxyl ™ pe 90- Preservative euxyl ™ pe 9010 a liquid preservative for particular care products, with strong, broad- spectrum effectiveness

Table No. 1: Formulation of peel off mask

Ingredients	Parts used	Category	Qty%
Lemon	Peel	Antioxidant Antimicrobial	7
Pomegranate	Seed	Antioxidant Antimicrobial	7
Polysorbate 20	-	Solublizer	0.5
Polyvinyl Alcohol	-	Film former	12
Glycerin	-	Humectant	4
Butylene Glycol	-	Humectant	4
Sodium Hydroxide	-	Neutralizer	0.1
Xanthan Gum	-	Thickening agents	0.2
EuxylTM Pe 9010	-	Preservatives	1
Citric Acid	-	PH stabilizer	0.1
Water	-	Solvent	64.1

Preparation of Peel of Mask

Apparatus and reagents

• Pipette

• channel

• 50 ml and 120 ml teacups

• Distilled water

• Chemicals

Procedure

The Peel off Mask prepared first the needed volume of water was taken in a teacup A counted volume of Polyvinyl alcohol was added little by little in a Stirrer until livery gel was attained also counted volume of Butylene glycol, Glycerin and Mix with Xanthan Gum also added and dissolved. Below Temp. 45OC Add Preservative and Polysorbate 20 To this, excerpt of Essential oil painting was added also Stirr well and at last, Sodium Hydroxide and Citric acid was added.

5 Evaluation of Peel of Mask. (18**)**

- pH- The pH of the Gels was determined using a digital pH cadence. The pH value of the Gel was 7.4 which are considered respectable to avoid the threat of vexation on operation to the skin.
- **Spreadability-** The spreadability is veritably important as it shows the geste of Gel that comes out from the tube. It's used to identify the extent of spreadability by the Gel on the skin. A small sample volume was placed on a glass slide and another slide was placed above them; 100 g of weight was placed on the slide. The time taken for the Gel to spread on the slide was noted and measured which was set up to be 6.5 cm in 5 min. It was calculated using the following formula S = m × 1/ t. S = Spreadability

m = Weight placed on the slide l = Length of the glass slide t = Time taken in seconds

- **Extrudability-** To determine extrudability, a unrestricted collapsible tube containing expression was pressed forcefully at the waved end. When the cap was removed, expression extruded until the pressure dissipated. Weight in grams needed to banish a 0.5 cm strip of the expression in 10 s was determined. The average extrusion pressure in g was reported. It was set up to be 15.3 g/ cm
- **Density-** The density of the different Gel formulae was determined at 25 °C using Brook field viscometer DV2T model. The Gel sample (5 g) was placed in the sample holder of the viscometer and allowed to settle for 5 min, and the density measured a rotating speed of 50 rpm at room temperature (25 – 27 °C). The density was set up to be 1050 centipoise
- perversity- A small quantum of Gel was applied externally on the skin face for many twinkles and checked for responses on the skin. It was set up to benon-irritant
- **Washability-** A small quantum of Gel was applied externally on the skin face, and it was washed with running water. It was set up to be fluent washable.

Table No. 2: Evaluation parameters of Evaluation & development of peel off mask

Sr. No.	Parameters	Observations
1.	Color	Charcoal Black
2.	Odour	Aromatic
3.	Consistency	Good
4.	PH	7.0±0.8
5.	Viscosity	1050±0.2 centipoise
6	Spreadability	6.5±0.6 cm
7	Washability	Easily washable
8	Irritability	Non-Irritant
9	Extrudability	15.3±1.2 g/cm2

3. RESULT AND DISCUSSION

Vaccume Distillation

Result obtained by is shown in Table below:

Table No. 3: weight of oil with respect to time

Weight (g)	Time (mins)
0.50	250
0.60	500
0.70	750
0.80	1000
0.90	1200

The oil produced by Vaccume Distillation Method is 3.5 g weight of oil per 100g of Fresh Lemon peel there by producing 3.5% oil yield at 78^0C

Soxhlation Method

Result obtained by Soxhlet extraction is shown in Table below:

Table No. 4: weight of oil with respect to time

Weight of oil (g)	Time (mins)
0.3	250
0.4	500
0.5	750
0.6	1000
0.7	1200

The amount of pure Pomegranate oil obtained by extraction method was 2.5 g of essential oil per 100g of Pomegranate sample. This gave 2.5 % yield of essential oil. The volume of oil was measured at every 4hr interval to determine the oil yield at varying time. As the time increases the Ethanol solvent reduces thereby leaving the oil in the mixture

Table No. 5: Result of Essential Oils Extraction

Method of extraction	% yield
vacuum Distillation	3.5
Soxhletion Method	2.5

Calculation of Percentage Yield of Volatile Oil:

Material Balance for Vacuum Distillation Method

- Weight of Lemon = 100g

- Quantity of hexane used= 600ml, Quantity of Ethanol used= 200ml
- Weight of beaker= 105.26g
- Weight ethanol and essential oil= 202.7g
- The weight of oil obtained= 3.5 g
- %yield = ME/ML x 100
- Where, ME = Mass of essential oil Ml = Mass of Lemon Peel sample
- ME = 3.5 g ML = 100g
- By substituting values
- %yield = 3.5/100 x 100 =3.5%
- Therefore % yield= 3.5%
- The graph below shows the plot of the weight of essential oil with respect to time for solvent extraction method

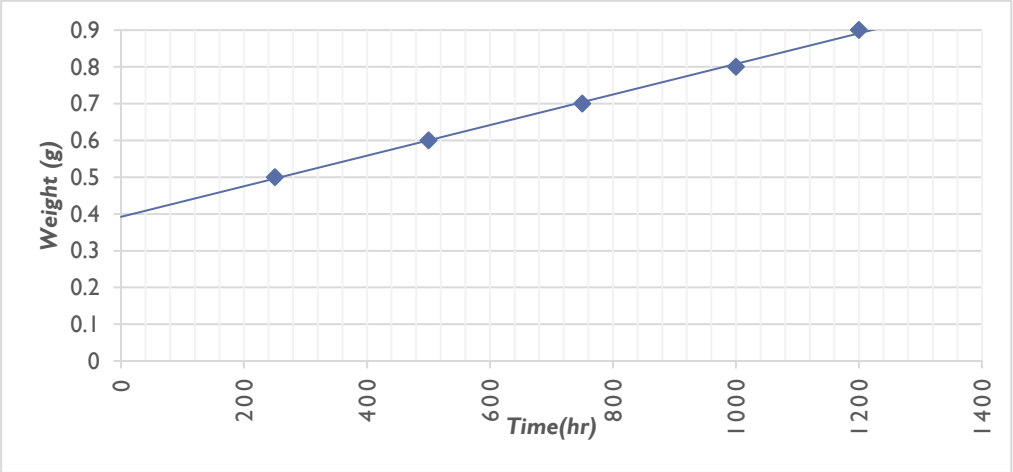

Fig. No.1: Graph below shows the plot of the weight of essential oil with respect to time for Vacuum Distillation Method

Material Balance for Soxhletion Method

Weight of Pomegranate= 120g

Quantity of Olive oil used= 600ml, Quantity of Ethanol used= 140ml

Weight of beaker= 97.86g

Weight ethanol and essential oil= 100.88g

The total weight= 2.5 g

%yield = ME/MP x 100

Where

ME = Mass of essential oil, MP = Mass of Pomegranate Sample

ME = 2.5g

MP = 120g

By substituting values

%yield = 2.5/120 x 100 = 2.08%

Therefore % yield= 2.08%

Graph of the weight (g) of essential oil to the time (mins) for extraction method

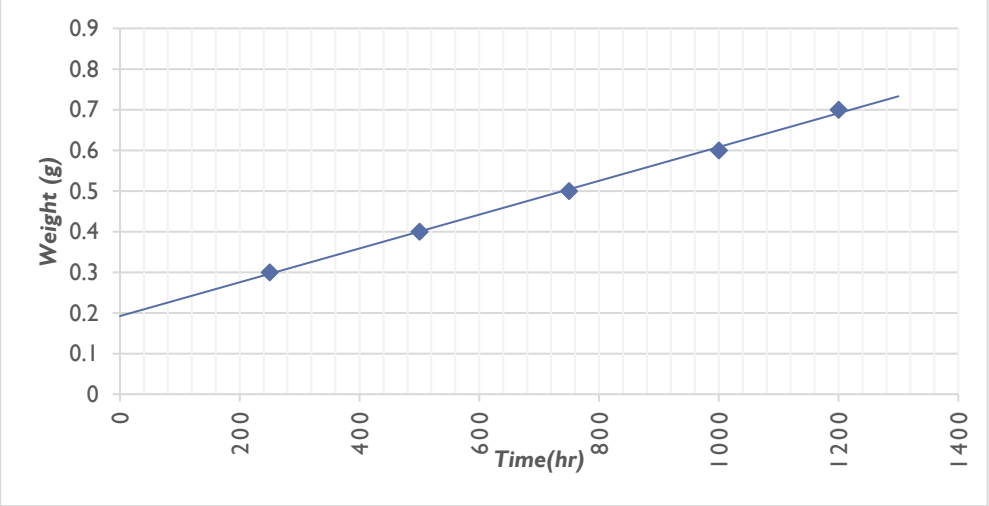

Fig. No. 2.: Graph of the weight (P) of essential oil to the time (mins) for Soxhlation Method

4. CONCLUSION

The peel-off mask was formulated by incorporating these extracts into a gel base. The mask was evaluated for various parameters such as pH, spreadability, homogeneity, and drying time. The formulated peel-off mask showed promising results, offering both protective and therapeutic benefits for the skin. The research aimed to determine the effectiveness of these natural extracts in combating oxidative stress and microbial infections, and to develop a functional skincare product.

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