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Formulation and Characterisation of a of Tomato Extract based peel off mask for skin care application

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Abstract: -

Tomatoes are a common ingredient in the household due to its beneficial effects. Tomato seed extracts containing products has antiaging properties, Prevents Hyper pigmentation, reduces excessive oil production, Brighten and Tightens the skin pores. With the growing preference for herbal ingredients that deliver quick results, tomato peel off mask will be more acceptable product in the current state. Product evaluated by different evaluation tests like organoleptic properties such as pH, Spreadability, Folding Endurance, etc., Tomato peel of mask comfortably peel out without irritating skin, give an instant glow, reduces pigmentation and corrects the uneven skin tone.

Key Words: - Tomato Extract, Peel off mask, Tan removal.

1. INTRODUCTION [1,2,3]: -

There are many cosmetics products available in market. In that, Peel off mask is one of the cosmetic products that gives you the instant glow. Its specially prepared to avoid time consumption to get luminous skin. The skin care products are expensive and not affordable to everyone. On the other hand, Peel off mask is comparatively quite cheap & effective. It uses to remove the tan, moisturized & hydrate the skin. Its available in slurry form which applies on the skin after washing the face and wait to dry. After complete drying have to remove the thin supple film. This takes only 10-15 minutes to gives the shiny skin. The tomato seed extract used as Active ingredient. Tomato is also called as love- apple. The tomato extract used in the formulation is from the *Lycopersicon esculentum* species which belongs to the

family **Solanaceae**. It usually called as Nightshade family. Tomato helps to brighten the skin & shows the anti- ageing property. Tomato regulates the sebum production which helps to manage the excessive oil on the face, prevents the skin from acne and tightens the pores. It has lycopene as an active constituent which removes the dirt from face & act as natural facial cleanser. The tomato rich in vitamin c which is natural shows the antioxidant property helps to reduces hyperpigmentation & corrects the skin tone. The tomato has side effects when it consumes excessively but dose not show any side effects on the skin. The formulation contains tomato extract which absorbed from the skin and shows its effects because of that the people allergic to tomato should not use the product. In this busy lifestyle your skin needs little attention, to maintain your glow and healthy skin without acne. Wrinkles, tanning you should choose the peel off mask.

2. MATERIALS USED: -

Polyvinyl Alcohol (PVA), Gelatine, Extract (Tomato), Glycerin, Citric acid, Ethanol, Triethanolamine (TEA), Rose oil, red pigment, distilled water.

3. METHODOLOGY: -

Formula: -

Sr.No.	Ingredient	Quantity given	Use
1.	Polyvinyl Alcohol (PVA)	14 %	Film forming agent
2.	Gelatin	4 %	Gelling Agent
3.	Extract (Tomato)	10 %	Active ingredients
4.	Glycerin	2 drops	Moisturizer
5.	Citric acid	0.5 %	Preservative
6.	Ethanol	2 %	Anti-microbial agent
7.	Triethanolamine (TEA)	0.5 %	PH balancer
8.	Rose oil	q. s	Perfumery agent
9.	Colorant	q. s	Coloring agent
10.	Water	q. s	Solvent

Table no. 1 Tomatoes peel of mask formula

Procedure: -

- Wear gloves and take all required apparatus & clean them properly.
- Prepare a water bath and keep distilled water in a beaker to boil.
- Weigh the Polyvinyl alcohol (PVA) & Gelatine as per requirement.

- After reaching the 80⁰C temperature of water in the beaker, prepare PVA and Gelatine in different Beakers.
- After that Mix them together.
- Weigh and add the Citric acid (Preservative) in it with warm water.
- Weigh and Add the Extract in that mixture.
- Add 2 drops of Glycerine for moisturizing effect.
- Then add measured Ethanol to prevent microbial growth.
- Mix them properly and add colorant (If you want) & Perfume (If you want).
- Add the Triethanolamine (TEA) to adjust the PH.
- Finally, Make up the volume with Water as a solvent.

4. EVALUATION PARAMETERS: -

- 1. Organoleptic Characteristics** ^[3,4] : By observing the formulations, the following parameters are decided, it includes Color, odor, state and consistency.
- 2. pH** : - With the help of PH meter, the values of PH check and note the readings.
- 3. Spreadability Test** ^[4, 5]: In this the 1 gm sample weighs on the butter paper then puts the watch glass on that. 5 gm weight, keep on the glass and wait for 2 minutes. After 2 minutes check the diameter of the spread formulation and note it down.
- 4. Irritancy Testing**^[7] : The Prepared formulation applies on the back side of hand and keeps it for 10 minutes and checks if there is any kind of itching, rashes or redness observed or not.
- 5. Peel off test** ^[8]: Draw the 4cm*4cm on the back side of the hand. Apply the formulation on it. Wait for 10 minutes to dry it and then peel it off slowly. Check if the formulation easily peels off or not.
- 6. Folding Endurance** ^[5]: To evaluate this parameter, we have to apply formulation on the back of the hand measuring the size 3cm*3cm. dry it out and peel off then take that peel and fold it in small portions until it breaks it. Count the fold and note it down.
- 7. After feeling**^[5,11]: Apply the formulation on the skin. Leave it for 10 minutes and then peel it out after peeling. Observe the effect on the skin like brightening the skin, tightening and glowing effect.
- 8. Removal test**^[5]: After application and drying the peel off mask we have to peel it off and check if there is any complexity observed or not and the smooth and consistent peeling it or not. Note it down.

- 9. Homogeneity test** ^[17]: Take the one glass side. wash it properly, dry it properly. Apply the peel off mask on the slide with the help of your finger. Then keep another glass side on that press it. Observe in the light and note if the particles are evenly distributed or not.
- 10. Anti- Oxidant test** ^[15,16]: Take 10 mg of the formulation and dissolved it in 10 ml of solvent i.e. Ethanol used as a stock solution. using this, prepare the various concentrations like 10ppm, 20ppm, 30ppm, 40ppm, 50 ppm in volumetric flask. Then keep it aside. Prepare the ferrous sulfate (FeSO_4) of 2.5 M. Then prepare the Salicylic acid Ethanol solution and Take hydrogen peroxide (H_2O_2). Now take the 10 ml volumetric flask. Clean it properly. Then Withdraw the 0.2 ml of sample in different concentrations and add it in different amounts respectively. Then add 0.4 ml of hydrogen peroxide (H_2O_2). After that add 1 ml of ferrous sulfate (FeSO_4) in every flask. Add 1 ml of salicylic acid ethanol solution, add 0.4 ml of distilled water in that and shake it properly. Then keep it in the incubator for 1 an hour and after that take the absorbance of it at 510 nm in uv-visible spectrophotometer. Note down the readings.
- 11. Anti- Bacterial test** ^[14]: By cup and plate method. Make the different concentrations of the extract. Take 4 agar plates and keep it in the aseptic medium. Divide the agar plate into the 4 sections and mark them as per bacteria each. On the other side kept the discs into different concentrations as well as solvent. Then pour the bacteria into agar plate and then keep the discs as per sections respectively. Close the agar plate and keep it in the incubator for 24 hours. With this make agar plate of any positive control and keep it also in the incubator for 24 hours. After 24 hours check the plates and compare inhibiting activity with the standard one by measuring the diameters. Note that and conclude the activity.
- 12. Viscosity** ^[18]: By using the Brookfield viscometer check the viscosity of the product at 20 rpm for 2 minutes by using 64 no. spindle. Note down the shear (%) and Viscosity (cp).

Evaluation Parameters Results: -

Sr. No	Test	Result
1.	Colour	Red
2.	Odor	Rose Oil essence
3.	State	Semi solid
4.	Consistency	Smooth and thick
5.	pH	5.53
6.	Spreadability test	Easily Spreadable (45 mm)
7.	Irritancy test	Non- irritable
8.	Peel off test	Thin & Smooth Peel
9.	Folding Endurance	18
10.	After Feeling	Feel cool & smooth texture
11.	Removal test	Easily removalable
12.	Homogeneity	Homogenous
13.	Anti- Oxidant test	Shows anti- oxidant activity
14.	Anti- bacterial test	Inhibition Observed
15.	Viscosity	14542 cp

Table no. 2 Evaluation Parameter**5. CONCLUSION: -**

- The above formulations were prepared successfully and evaluated. They meet the standards parameters of evaluation tests as per WHO / ICH guidelines.
- The above product is easy to apply and requires only 10-15 minutes to dry and peel off easily.

- The peel off mask gives the tightening effect, moisturizing and glowing skin.
- Lycopene contain peel off mask helps to regulate the collagen production and gives the glow.
- It is cost effective as well as less time consuming and Safe.

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