

Available online on 15.06.2024 at <http://ajprd.com>

## Asian Journal of Pharmaceutical Research and Development

Open Access to Pharmaceutical and Medical Research

© 2013-24, publisher and licensee AJPRD, This is an Open Access article which permits unrestricted non-commercial use, provided the original work is properly cited

Open  Access

Research Article

## Formulation and Evaluation of Polyherbal Peel Off Mask

Shreya Lokhande, Shraddha Mankar, Achal Satpute, Dr Monika Jadhao

Vidyabharati College of Pharmacy, Amravati, Maharashtra, India

## ABSTRACT

When applied across the skin's mucous membrane, skin care products including gel, lotion, ointment, cream, peel-off masks, etc., are meant to have a localised effect. A peel-off mask is a type of dosage form that is gently placed to the face and taken off after a short while. It is said to tighten, moisturise, and eliminate tan lines from the skin in addition to treating common skin problems. We are now preparing the recipe for a Tulsi peel-off face mask. Tulsi extract lessens acne, evens out skin tone, and slows down the ageing process of the skin. As excipients, the formulation includes glycerol, citric acid, and polyvinyl alcohol (PVA) etc. Numerous formulations were examined for peeling time, spreadability, pH, and stability studies, among other attributes. When evaluated for the parameters, the formulation is found to be within the designated range.

**Keywords:** Face mask, Epidermis, Dermis, Hypodermis, Acne, Soothing, Herbal extract, Spreadability.

**ARTICLE INFO:** Received 14 Jan 2024; Review Complete 16 March 2024; Accepted 23 May 2024; Available online 15 June. 2024



## Cite this article as:

Lokhande S, Mankar S, Satpute A, Jadhao M, Formulation and Evaluation of Polyherbal Peel Off Mask, Asian Journal of Pharmaceutical Research and Development. 2024; 12(3):23-28, DOI: <http://dx.doi.org/10.22270/ajprd.v12i3.1389>

\*Address for Correspondence:

Shreya Lokhande, Vidyabharati College of Pharmacy, Amravati, Maharashtra, India

## INTRODUCTION

Peel-off masks were developed especially for medical operations in beauty salons. Our mask is prepared for application, so it may be put on the skin right away. Moisture collects in the horny layer beneath the elastic mask film as it is applied to the skin and progressively solidifies, blocking the flow of water or air. Conversely, the main active compounds in the formulation and any extra active ingredients work well to penetrate the skin and swiftly deliver the concentrated chemicals.<sup>[1]</sup>

One of the film-producing ingredients in solid film peel-off masks is tragacanth gum, which dries on the face for a few minutes before forming a film. It removes any dead skin cells and other debris from the face's skin, leaving it feeling clean, renewed, and moisturised. The skin seems smoothed and cleansed after application.<sup>[2]</sup>

The occlusive qualities of Peel Off Mask somewhat speed up metabolism. Waste materials and accumulated tissue fluid are rapidly eliminated. In order to quickly achieve a significantly improved skin profile. Skin protection is crucial since the skin is the body's outermost layer and is readily contaminated by the environment.<sup>[3]</sup>

Black hairs, dark patches, dead skin, white heads, and other skin-related issues on the face can all be treated using peel-off masks, which are particularly effective at opening tight pores. Its primary function is to increase metabolism because to its occlusive effect heads.<sup>[4]</sup>

The adsorption capacity of this peel-off mask is its key feature. Both organic and inorganic pollutants are eliminated, along with a wide range of other particles and contaminants.<sup>[5]</sup>

## Advantage of peel off gel mask

- Suitable for all type of skin
- It repairs and rejuvenate skin tone, gives a healthy hydrated glow to the skin.

## Method of preparation

PVA was dispersed in 80% of the distilled water (85 - 90) in a water bath (mixture 1). PEG 400 was dissolved in the water (mixture 2). Methyl paraben and disodium EDTA was dispersed into the propylene glycol and glycerin then stirred until homogenous and added with Tween 80 and the remaining amount of water (20%) (mixture 3). Propyl paraben and BHT

were dispersed into the Lavender oil (mixture 4). Then added mixture 3 into mixture 2 homogenously and added again into mixture 1. Lastly, added some fragrance into mixture 1 and

poured with mixture 4 homogenously until peel-off masks are formed.<sup>[6,7,8]</sup>

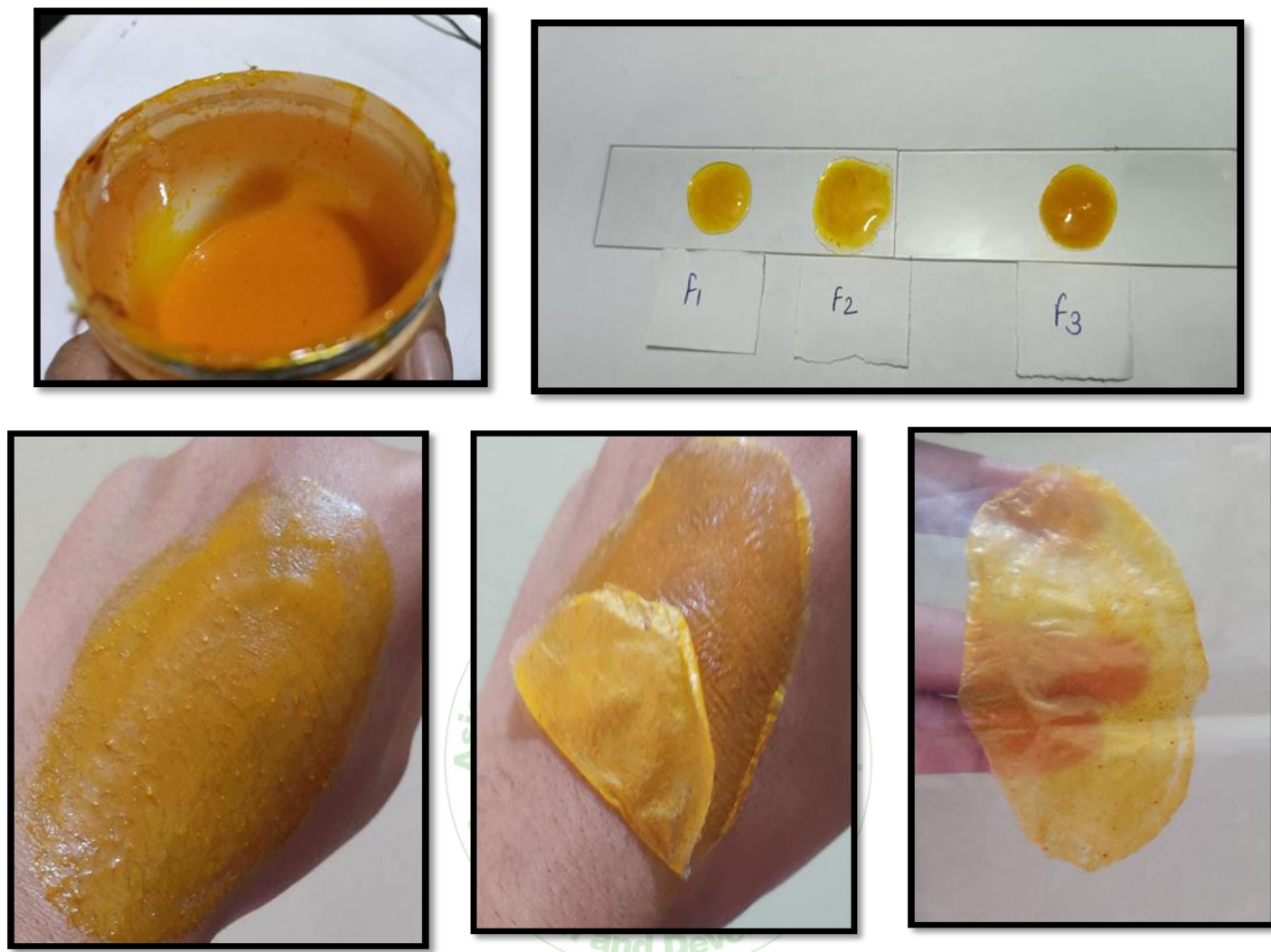


Figure 1: Preparation of gel

#### Formulation of Peel off mask:

Table 1: Optimization of formulation

Ingredient	F1	F2	F3
Tulsi	1 ml	1ml	1ml
Orange peel	1.5 gm	1.5 gm	1.5 gm
Neem	1.5 gm	1.5 gm	2.5 gm
Turmeric	1.5 gm	2.5 gm	3.5 gm
Multani Mitii	1.5 gm	2.5 gm	3 gm
Polyvinylalcohol	7gm	8 gm	9 gm
Propyleneglycol	2 ml	2 ml	2 ml
Ethyleneglycol	2 ml	2 ml	2 ml
Glycerol	4 ml	4 ml	4 ml
Methylparaben	0.2 gm	0.2 gm	0.2 gm
Propylparaben	0.02 gm	0.02 gm	0.02 gm
DisodiumEDTA	0.02 gm	0.02 gm	0.02 gm
Lavenderoil	1 ml	1 ml	1ml
Citricacid	0.1 ml	0.1 ml	0.1 ml
Triethanolamine	1ml	1ml	1 ml
Water	100 ml	100 ml	100 ml

## EVALUATION TESTS:

**Organoleptic properties:** After visually inspecting the product, we found that it was of:

**Colour:** Yellow

**State:** semi-solid

The consistency is thick and smooth. <sup>[9,10]</sup>

**pH:** Using a digital pH metre, the pH of this all-herbal peel-off mask was discovered to be 5.9. The pH of this activated Tulsi peel-off mask <sup>[11,12]</sup>

**Irritancy test:** To screen for irritant reactions, such as swelling, itching, and redness on the skin, a formulation was applied to the back of the hand and left on for 15 minutes. <sup>[13,14]</sup>

**Spreadability test:** Put a butter paper with the 1 gramme formulation on it, then place a watch glass on top of it. The sample was then compressed to a consistent thickness for two

minutes using a five-gram weight on a watch glass, and its diameter was measured. <sup>[15,16]</sup>

**Peel off test:** The skin of the back of the hands was covered with a 4x4mm formulation film. Give it a good fifteen to twenty minutes to dry. Peel off the dry layer from the skin's surface after 15 to 20 minutes. Peel removed with ease and without any issues was noted. <sup>[17,18]</sup>

**Folding endurance:** Onto the skin was put the formulation film. A section of the film (3 by 3 cm) was cut and folded in the same spot until it broke after drying. A film's folding endurance is determined by how many times it can be folded without breaking. <sup>[19,20]</sup>

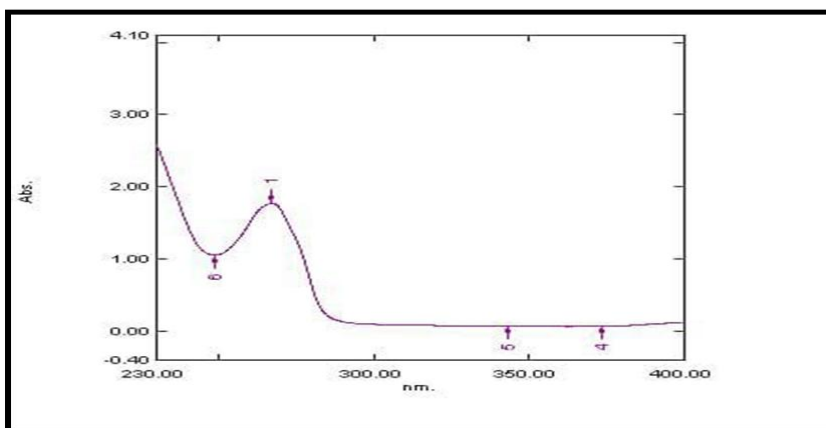
## RESULT AND DISCUSSION:

**Table2:** Table Evaluation Parameters for Peel off gel formulation

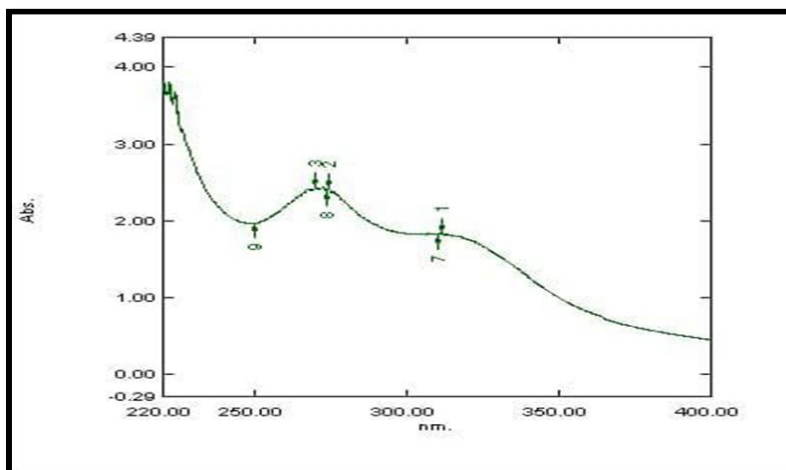
Parameter	Colour	Odour	Consistentancy	Washability
F1	white	lemony	semisolid	good
F2	White	Lemony	Semisolid	Good
F3	White	Lemony	Semisolid	Good

**Table 3:** Evaluation parameter data

Parameter	Observation	Observatio	Observatio
	F1	F2	F3
PH	5	5.9	7
Washability	Washable	Washable	Washable
Spreadability	6cm	7cm	6cm
Skinirritation	Irritationcause	Nonirritant	Nonirritant
Peelingtime	30min	35min	30min

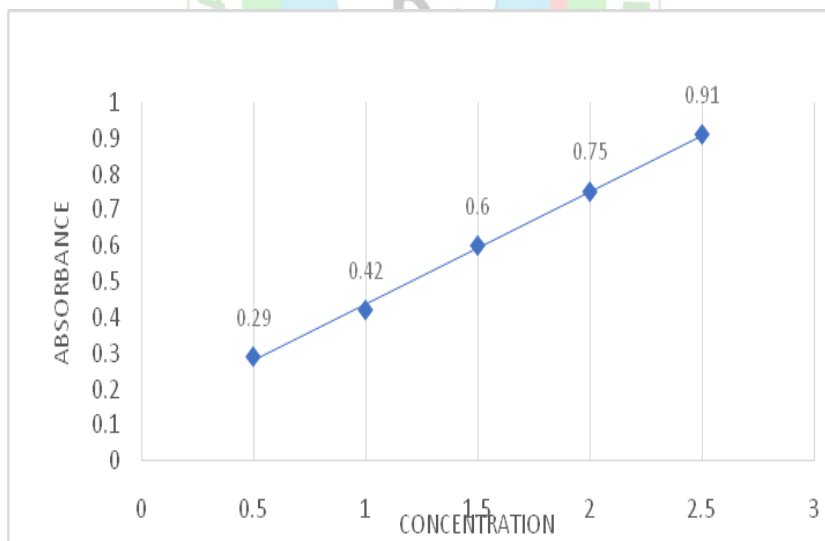


**Figure 2:** UV spectrum of tulsi extract



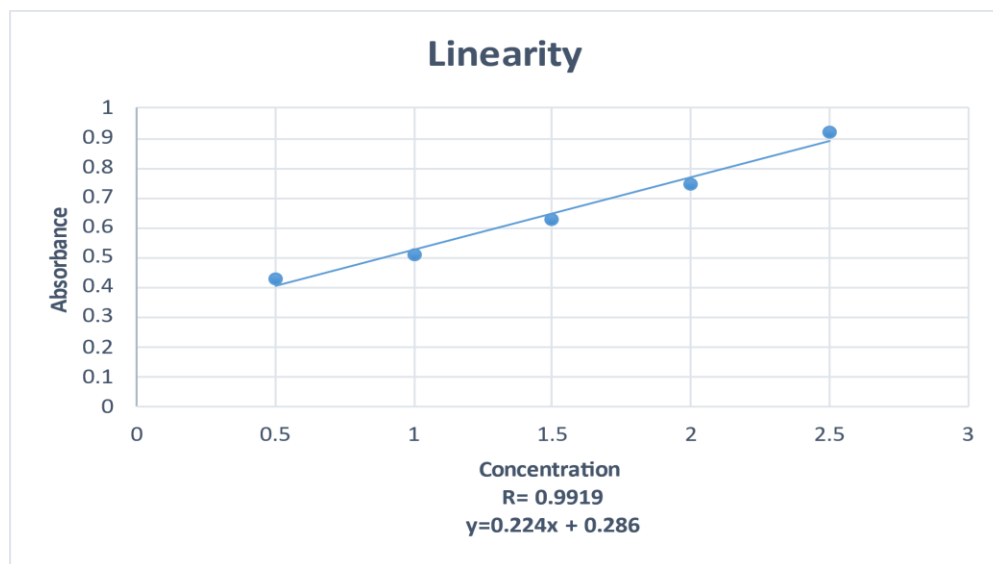
**Figure 3:** UV spectrum of orange peel extract

Y-Axis (concentration)	X-Axis (Absorbance)
0.5	0.56
1	0.76
1.5	1.02
2	1.18
2.5	1.37



**Figure 4:** Linearity of orange peel extract

Y-Axis (concentration)	X-Axis (Absorbance)
0.5	0.43
1	0.51
1.5	0.63
2	0.75
2.5	0.92



**Figure 5:** Linearity of Neem Extract

## CONCLUSION:

These days, people are searching for side-effect-free remedies for a range of skin-related problems. There is a potential to make cosmetics that are less hazardous and safer than synthetic formulas by getting rid of herbal plant ingredients and their derivatives. Aloe vera and turmeric are among the natural components used in the peel-off mask study. According to this investigation, the formulation exhibits good spreadability and is very stable at room temperature, which helps to ensure patient comfort when using the peel-off mask. All skin types can use the peel-off mask with good compatibility, as it does not cause irritation or allergies. On human skin, the peel-off masks demonstrated good peel-off qualities with no itchiness or irritation and no residue. The study on herbal peel-off masks verified that they eliminate dead skin cells, excess facial hair, pigmentation, give skin a glow, unclog pores, and replenish moisture and hydration. The product's consistency and suitability for all skin types Good dispersibility Wash your skin's surface. shield the skin from outside<sup>[21]</sup>

## REFERENCES

- Fathima, Sujith Varma, P. Jagannath, M. Akash; "General Review on Herbal Cosmetics"; International Journal of Drug Formulation and Research; 2011; 2 (5): 140-165.
- Himaja N, Ashok kumar A, Bhart kumar B; "Preparation and Evaluation of Poly Herbal Fruit Face Mask"; Journal of Research in Pharmaceutical Science; 2015; 2;(1): 07-13.
- Mr K.G Bhutkar and Mrs. M. Shah; "Formulation and Evolution of Herbal Antibacterial Face Pack"; Journal of Emerging Technologies and Innovative Research; 2019; 6; (5):77-82.
- Trasna Arman Jani, Aliefman Hakim, Yohanes Juliantoni; "Formulation and Evaluation of Antioxidant Peel-Off Face Mask Containing Red Dragon Fruit Rind Extract (Hylocereus polyrhizus Haw.)"; JurnalBiologiTropis; 2020,20, (3): 438-445.
- Sachin Bhagwat Aglawe, Amol Uttamrao Gayke, Suraj Anil Mindhe, Varsha Gajanan Rane; "Formulation and Evaluation of Herbal Face Pack"; International Journal of Pharmacy and Biological Sciences; 2018; 8; (4): 49-52.
- Design and Formulation and Optimization of peel oof Face Mask Gel for the treatment ofRosa.ce. R. Shamly, H. Nasrin journal of pharmaceutical research science and technology (2022).
- Azrifitria; Aziz, S. C. (2010) 'Antibacterial Activity of Ethanolic Extract of Leaves and Bulbs of Crinum asiaticum L. Against Acne-inducing Bacteria', Indonesian Journal of Pharmacy, 21(4), pp. 236–241.
- Green clay and aloe vera peel-off facial masks: Response surface methodology applied to the formulation design', AAPS Pharm SciTech, 14(1), pp. 445–455.
- D. M. Kannur, S. S. Salunkhe, P. S. Godbole and S. P. Patil; "Formulation and Evaluation of Traditional Medicine Based Herbal Lozenges, Jellies and Dispersible Tablets"; International Journal of Pharmaceutical Sciences and Research; 2018; 9; (8):3501-3505.
- Bayu Eko Prasetyo, Dwi Rafika, Lia Laila, Fat Aminah; "Physical Evaluation and Anti-Aging Effect of Red Bean Ethanolic Extract (Vigna angularis (Wild.) Ohwi & Ohashi) Peel-Off Gel Mask"; Herbal Medicine in Pharmaceutical and Clinical Sciences; 2019; 7;(22):3907-3910.
- Ira Adiyati Rum, Husnul W Suherman, Idar; "Formulation and evaluation of peel-off gel mask from whole milk yogurt and seaweed (Eucheuma cottonii) as antioxidants sources"; Pharmacy & Pharmacology International Journal; 2021; 9;(4):132-135.
- Mane P. K.; "Formulation and Evaluation of Peel - Off Gel Formulation Containing Fenugreek"; Pharmaceutical Resonance; 2021; 3; (2):99-104.
- Arif Budiman, Diah Lia Aulifa, Arif Satria Wira Kusuma, Insan Sunan Kurniawan, Astri Sulastr; "Peel-off gel formulation from black mulberries (Morus nigra) extract as anti-acne mask"; National Journal of Physiology, Pharmacy and Pharmacology; 2017; 7; (9): 987-994.
- Wira Noviana Suhery, Nia Anggraini; "Formulation and Evaluation of Peel-off Gel Masks from Red Rice Bran Extract with Various Kind of Bases"; International Journal of PharmTech Research; 2016; 9; (12):574-580.
- Sani Ega Priani, Restianti Mutiara, Dina Mulyanti; "The development of antioxidant peel-off facial masks from cinnamon bark extract (Cinnamomum burmannii)"; Pharmacia; 2020; 10; (1):69-76.
- Henni Rosaini, Indra Makmur, Etika Ayu Lestari, Wahyu Margi Sidoretno, Rina Desni Yetti; "Formulation of Gel Peel Off Catechins Mask from Gambir (Uncaria gambir (Hunter) Roxb) with the PVP K-30 Concentration Variation"; International Journal of Research and Review; 2021; 8; (3):205-211.
- Apurva Suresh Patel, Miss. DevyaniBhanudas Mane, Miss. SayaliMahesh, Nandre, Miss. Sahara Laxman Padvi; "Formulation and evaluation of poly herbal fruit face pack"; International Journal of Pharmaceutical Research and Applications; 2022; 7; (5):364-370.
- N Yadav and R Yadav; "Preparation and Evaluation of Herbal Face Pack"; International Journal of Recent Scientific Research;6;(5): 4334-4337.
- Mamatha G. T., Chandana A. G., Bhanu Shree S, Kavya B. S., Sinchana R., Madhu Kumar M. T. and Hemanth Kumar S.; "Formulation and



- Evaluation of Facial Peel Off Mask Gel Containing Gram flour"; World Journal of Pharmaceutical Research; 2022; 11;(8):898-905.
20. Fith Khaira Nursal, Nining, At Syamsiyah Rahmah; "Formulation and Development of Grape Seed Oil (Vitis Vinifera L) Emulgel Peel-Off Mask using Gelling Agent Hydroxy Propyl Methyl Cellulose (HPMC)"; Earth and Environmental Science; 202; 755;1-7.
21. Mohammad A. Alzohairy, Therapeutic Role of Azadirachta indica (Neem) and Their Active Constituents in Disease Prevention and Treatment 2016; 2016: 7382506.

