



**INTERNATIONAL JOURNAL OF  
PHARMACEUTICAL SCIENCES**  
[ISSN: 0975-4725; CODEN(USA): IJPS00]  
Journal Homepage: <https://www.ijpsjournal.com>



## Research Article

# Formulation And Evaluation of Herbal Face Serum

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### ARTICLE INFO

Published: 16 Jun. 2026

**Keywords:**

Face Serum, Hydration,  
Antioxidents.

**DOI:**

10.5281/zenodo.20717293

### ABSTRACT

World has now come to the realization that herbal formulations are safer and more effective than synthetic ones. It increases the global demand for herbal formulations. The primary purpose of herbal cosmetics is to preserve and protect an individual's look. Face serum has the ability to swiftly penetrate the skin's layers. Customers searching for skincare products that are both Ecofriendly and effective are increasingly choosing herbal face serums. Serum offers a rich, non-greasy composition with a high concentration of active ingredients, as well as quick absorption and the capacity to penetrate the skin's deeper layers. The serum has the ability to penetrate deeper layers of the skin and has the quality of rapid absorption. Because of their powerful botanical ingredients and skin-nourishing properties, herbal face serums are becoming more and more well-liked as natural skincare treatments. Plant extracts, essential oils, and bioactive substances are used in the formulation of these serums to hydrate, revitalize, and shield the skin. Herbal alternatives to traditional serums employ fewer synthetic chemicals, which lowers the possibility of discomfort and negative responses. Many people use herbal cosmetics on a regular basis, and they are quite necessary in today's environment . The current Review presents the different types of face serum. The oil serum, The gel serum, The water based serum, The emulsion serum, The pressed Balm serum Herbs used in face serum. Herbal face serum was prepared using aloe vera, rosmery oil, vit E, almond oil, Coconut oil, Rose water and a small quantity of ascorbic acid. Prepared formulation was evaluated for safety.

## INTRODUCTION

study of human skin is crucial in fields like dermatology, toxicology, pharmacology, and cosmetology, as it helps understand how external

agents affect the skin, how they interact, and their potential toxicity. The desire for beauty and healthy skin has been important since ancient

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**Relevant conflicts of interest/financial disclosures:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.



times, and this led to the development of cosmetics. The word “cosmetic” comes from the Greek word meaning “to adorn,” and cosmetology is the science of beautifying and improving skin, nails, and In skincare, the goal is to deliver active ingredients effectively into the skin without harmful chemicals. Face serums are a solution for this, as they concentrate powerful ingredients to give quicker, more noticeable results. A serum is much more concentrated than a cream, containing up to ten times more active ingredients, either in water or oil form, making it a key product in cosmetology. Serum is packed with a bunch of beneficiary active components and nutrients such as antioxidants, Ceramides, amino acids and others. This explains why face serum always being the costliest item in a skin care Set. Weather it is moisturizer, anti-wrinkle or anti-aging product or skin serum, all these products should contain Antioxidants, cell-communicating ingredients and skin identical ingredients.

## **Serum**

Its gets rapidly absorbed and easily penetrates into the deeper layers of the skin. Also has a non-greasy finish and intensive formula which contains high concentrations of active substances. It contains skin- smoothing ingredients that enhance skin texture and make skin soft, silky smooth, and fair. The formulation has good spreadability makes the pores appear smaller increase moisture level.

## **Types Of Serum**

### **1.The Oil Serum**

The oil serum is the simplest to make of all the face serums. It often starts with a base of just premium, fast-Absorbing carrier oils, also referred to as “dry” oils. In addition to having moisturising and barrier- repairing Characteristics, the premium oils used in the serum also include polyphenols,

essential fatty acids, and other Substances that may be broken down by the skin.

### **2.The Gel Serum**

The gel serum Gel serums provide the skin a “tightening” sensation, giving your consumer the impression that their skin is Momentarily lifted or tightened in particular regions of the face. The gel serum provides you the chance to Include some fantastic water-based (hydrophilic) plant extracts because this formulation is water-based, plant extract because this formulation is water based

### **3. The Water Based Serum**

Water-based serums are comparable to gel serums, although they may contain none or very little gums and thickeners to administer high-performance hydrophilic plant extracts that are trapped against the skin beneath A cream or lotion would utilise a water based face serum. Layering an anti-ageing face mist under an Emulsion

### **4.The Emulsion Serum**

An emulsion-based face serum is a moisturizer that strength the skin barrier function while also delivering high performance component to the skin Emulsifier is used to bind water and oil together and retain them in stable state. The Best chance of delivering high performance active dipely into the tissue of the skin through an emulsion Given the skin barrier function it is highly difficult for any cosmetic component to penetrate dermis yet an oil and water mixture is best suited to accomplish this remarkable feat The skin barrier function will be straight by the emulsion moisturising character

### **5..The Pressed Balm Serum**

A balm serum has a conventional balm basis of butters, waxes, and oils but also includes active







substances that Are oil Insoluble (lipophilic) and may help the skin. The butters and waxes form an occlusive barrier on the skin That hydrates and nourishes it while allowing the pressed serum's active components to do their job. In a balm Serum, dozens of intriguing unique butters and waxes can be combined with thousands of exquisite plant oils.

### Advantages of face serum:

1. Improves skin texture.
2. Minimizes the skin pores.

3. Reduces fine lines and wrinkles.
4. Evens the skin tone.
5. Hydrates and nourishes the skin.
6. Improves skin elasticity.
7. Reduces dark circles.
8. Protects from the free radicals.

### Herbs Used In Formulation Of Herbal Face Serum

SR NO	Name of Plants	Chemical Constituents	Function Properties	Plants Parts used in Face Serum	Image of Plants
1	Aloe vera	Amino acids, polysaccharides, minerals, organic acids, phenolic compounds, anthrones, C-glycosides	Anti-inflammatory, anti-itch, pain reduction, wound healing, antioxidant properties	Aloe vera Gel	
4	Rosemary	Rosmarinic acid, carnosic acid, ursolic acid	Antioxidant, anti-inflammatory	Leaves	
7	Almond	Oleic acid, linoleic acid, vitamin E	Moisturizing, anti-aging, skin barrier repair	Almond Oil	
8	Coconut	Lauric acid, caprylic acid, vitamin E	Moisturizing, antimicrobial, anti-inflammatory	Coconut Oil	

### Method Of Preparation

1. Prepare Aloe Gel: Extract fresh aloe vera gel (ensuring the yellow latex/aloin is removed) or use store-bought 99% pure gel.

2. Combine Aqueous Phase: In a clean, sterilized bowl, combine 15 ml of aloe vera gel with 3 ml of rose water, mixing until smooth.

3. Add Humectants & Actives: Mix in 8 ml of glycerin for hydration. Optionally, add 1 Vitamin E capsule (punctured) for antioxidant benefits and rosmery oil.

4. Optional Additives: For specific concerns, add 4.5 ml and 1 ml of almond oil or coconut oil for extra moisturizing, or a few drops of lemon juice for brightening.

5. Mix & Store: Stir until the ingredients are Thoroughly blended into a consistent texture. Transfer to a sanitized dropper bottle for application.

**Base Ingredient:** Aloe vera acts as the Primary hydrating base, acting as a humectant that provides a non-greasy finish, making it suitable for all skin types.

**Active Ingredients:** Glycerin (8 ml per100ml) is often added to improve moisture retention. Vitamin E is used to prevent the serum from going rancid.

**Stability:** If using fresh aloe, the serum Should be refrigerated and used within 1-2 weeks. For longer shelf life, the serum should be kept in an amber glass bottle to protect it from sunlight.

#### Phases:

**Oil Phase:** Mix carrier oils (e.g., almond, coconut, and rosmery oil) with vitamin E and an emulsifier like Tween 20orSpan 80.

**Water Phase:** Combine aloe vera extract/gel, glycerin, rose water, and any botanical extracts (like papaya or green tea).

**Procedure:** Preparation: Heat both phases separately if required (typically to ~70°C for some emulsifiers).

**Emulsification:** Slowly add the Oil Phase into the Water Phase drop by drop while stirring vigorously (700-2500 rpm) to form uniform  
**Stabilisation:** Add a preservative (e.g., Sodium benzoate or methyl paraben) to prevent microbial grow than extend shelflife to 2-3

#### Formulation Table

SR NO.	INGREDIENT	QUANTITY
<u>1</u>	<u>Aloevera Gel</u>	<u>10 ml</u>
<u>2</u>	<u>Rose Water</u>	<u>5 ml</u>
<u>3</u>	<u>Glycerin</u>	<u>1-2 ml</u>
<u>4</u>	<u>Almond Oil</u>	<u>1 ml</u>
<u>5</u>	<u>Coconut Oil</u>	<u>0.5 ml</u>
<u>6</u>	<u>Vit E</u>	<u>2-3 drops</u>
<u>7</u>	<u>Ascorbic Acid</u>	<u>Very small pinch[0.1-0.2g]</u>
<u>8</u>	<u>Sodium Benzoate</u>	<u>Tiny pinch [Preservative]</u>
<u>9</u>	<u>Rosmery oil</u>	<u>1 ml</u>

#### Evaluation Parameter For Herbal Face Serum

SR NO	PARAMETER	STANDARDS	OBSERVATION
<u>1</u>	<u>Colour</u>	<u>Pale Yellow to white</u>	<u>Milky White</u>
<u>2</u>	<u>Odour</u>	<u>Pleasant</u>	<u>Characteristic</u>
<u>3</u>	<u>Consistency</u>	<u>Smooth</u>	<u>Smooth</u>
<u>4</u>	<u>PH</u>	<u>5.5-7.0</u>	<u>6.4</u>
<u>5</u>	<u>Spreadability</u>	<u>6-8[g.cm/sec]</u>	<u>6.8 [g.cm/sec]</u>
<u>6</u>	<u>Homogeneity</u>	<u>Homogeneous</u>	<u>Homogeneous</u>
<u>7</u>	<u>Irritability</u>	<u>Non irritant</u>	<u>Non irritant</u>
<u>8</u>	<u>Washability</u>	<u>Easily</u>	<u>Easily</u>
<u>9</u>	<u>Stability</u>	<u>Stable</u>	<u>Stable</u>
<u>10</u>	<u>Greasiness</u>	<u>Non Greasy</u>	<u>Non Greasy</u>

#### HOW TO USE FACE SERUM

**Cleanse your skin:** Start by washing your face. Use a gentle cleanser that is appropriate for your skin type to remove any debris, oil, and pollutants from your skin. Use a fresh towel to pat dry your skin.

**Tone (optional):** If you use a toner as part of your skincare routine, apply it only after cleaning. Toners can aid in restoring equilibrium to the skin's pH levels and prepare it for improved absorption of the upcoming skin care regimen. **Apply serum:** Apply a pea-sized amount of face serum with your fingertips. As you may remember, a little goes a long way, so don't need to use a lot of serum

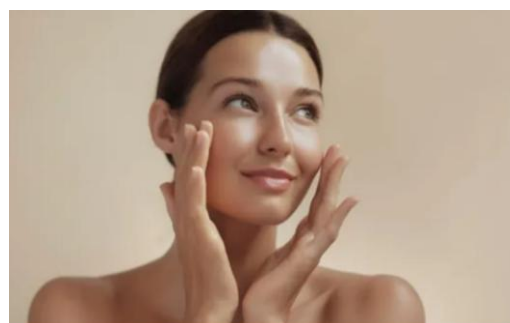
### **Apply to face:**

Gently pat the serum onto your skin, beginning in the center and going outward. Refrain from twisting or tugging at the skin near the delicate eye area. Use light, upward strokes to massage the serum into your skin. Focus on trouble spots or regions like wrinkles, dark spots, or fine lines where you want to treat specific skincare

## **REVIEW OF LITERATURE**

1. S.Ojha K.sonkar ,etal.[2024] Review Said that A highly concentrated cosmetic product is a face serum containing aloe vera, glycerin, and honeybee venom. Aloe Vera serum has the capacity to penetrate deeper layers of the skin and absorb quickly, providing both immediate cosmetic benefits and psychological gratification. Aloe vera gel is widely used to treat sunburn, minor wounds, insect bites, wound healing, and a range of skin conditions.

2. Nikhil Nitin Navindgikar, etal.[2023] Review Said that Aloe vera gel is widely used to treat sunburn, minor wounds, insect bites, wound healing, and a range of skin conditions. It also has



anti-inflammatory, anti-fungal, and anti-bacterial properties. Bael fruit extract's anti-inflammatory and antioxidant properties

3. Thorat PS, etal.[2025] Review Said that Face serum has the ability to swiftly penetrate the skin's layers. Customers searching for skincare products that are both eco friendly and effective are increasingly choosing herbal face serums. Serum offers a rich, non-greasy composition with a high concentration of active ingredients, as well as quick absorption and the capacity to penetrate the skin's deeper layers.

4. Kaur L, Singh AP, etal.[2023] Review Said that the serum has the ability to penetrate deeper layers of the skin and has the quality of rapid absorption. Because of their powerful botanical ingredients

and skin-nourishing properties, herbal face serums are becoming more and more well-liked as natural skincare treatments.

5. Shimpi AA, Pawara AS, et al. [2022] Review Said that Herbal alternatives to traditional serums employ fewer synthetic chemicals, which lowers the possibility of discomfort and negative responses. Many people use herbal cosmetics on a regular basis, and they are quite necessary in today's environment.

## RESULT

Herbal face serum was prepared using aloe vera, rosmery oil, vit E, almond oil, Coconut oil, Rose water and a small quantity of ascorbic acid. The ingredients used in serum was checked and then used. Prepared formulation was evaluated for Spreadability, Homogeneity, Irritability, Washability, Stability, Greasiness. Also the colour, odour, Consistency, and pH of the formulation was checked.

## CONCLUSION

These days, there are a fantastic number of serums on the market for every skin type and skin issue, so it's critical to know exactly what you want in a serum. Herbal face serum was prepared using aloe vera, rosmery oil, vit E, almond oil, Coconut oil, Rose water and a small quantity of ascorbic acid provides hydration keep skin soft and moisturized. This serum would mainly give a hydrating and nourishing effect on the skin because of aloe vera, glycerin, oils, rose water, and vitamin E. Given customers growing demand for clean and green beauty products, herbal face serums are an eco-friendly and versatile solution that provides a full skincare program that improve both appearance and wellbeing and best for all skin types.

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**HOW TO CITE:** Vishakha Borkar\*, Vidya Waghmare, Shubham Kakde, Vaishnavi Ture, Bhakti Putta, Formulation And Evaluation of Herbal Face Serum, *Int. J. of Pharm. Sci.*, 2026, Vol 4, Issue 6, 3912-3917. <https://doi.org/10.5281/zenodo.20717293>

