

Formulation and Evaluation of Alovera Perfume Lotion

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Abstract: *Liquid preparations called lotions are designed to be applied externally without causing friction. They're used straight onto the skin with the aid of some absorbent material that has been soaked in it, such as gauze or cotton wool. The market for natural products and natural extracts in cosmetic formulations was driven by consumer desire for herbal products. Natural herbs and their products are employed for their aromatic value in cosmetic preparation. The most widely used medical plant in the world and the oldest known medicinal plant is aloe vera.*

Keywords: Aloe vera, Herbal lotion, Herbal cosmetic, Herbal formulation, wound healing

I. INTRODUCTION

About Perfume Lotion:

Perfume lotions are defined as a monophasic or biphasic solution, emulsion, or suspension design to apply on unbroken and also broken or inflamed skin without friction. Lotion is a liquid application mainly for the skin, to produce a beautifying effect. The main characteristic sought after by users of lotion is an emollient and soothing effect. There are, however, other desirable properties built into the numerous products of this type like astringency, skin freshening effect 'bite' in aftershave lotion bleaching, and medicinal properties. A perfume lotion is a low-viscosity topical preparation intended for application to the skin. By contrast, lotion and gels have a higher viscosity, typically due to lower water content. Lotions are applied to external skin with bare hands, a brush, a clean cloth, or cotton wool. While a lotion may be used as a medicine delivery system, many lotions, especially hand lotions and body lotions and lotion for allergies are meant instead to simply smooth, moisturize, soften and, sometimes, perfume the skin. A perfume lotion may be low- to medium-viscosity medicated or no medicated topical preparation, meant for application to unbroken skin. Lotions are sometimes applied to external skin with clean hands, a clean fabric, cotton, or gauze. Solid particles incorporated in lotions ought to be in an exceedingly finely divided state to avoid grittiness. Lotions maintain the skin's hydration levels by locking in the moisture, keeping the skin healthy, soft, and supple. Unlike a cream, the lotions are less greasy and have more spots. Perfume lotion increases the skin's hydration (water content) by reducing evaporation. Naturally occurring skin lipids and sterols, as well as artificial or natural oils, humectants, emollients, lubricants, etc., may be part of the composition of commercial skin moisturizers. Lotion is liquids for a cutaneous application that are intended to be applied to the unbroken skin without friction they are aqueous, alcohol, or polyols- based solutions or suspension containing topically active therapeutic agents.

Cosmeceuticals

Now a day, everybody is familiar with the terminology "Cosmeceuticals", which has its role in maintenance of skin care in natural and organic manner. There is remarkable difference between a Cosmeceutical and cosmetic. The word cosmeceutical is actually a blended word of cosmetic and Pharmaceutical. The word describes a product that is a cross between a cosmetic and a pharmaceutical.

Cosmeceuticals have been used in a variety of therapeutic indications like

- Moisturization
- Anti-wrinkle / aging effects
- Antioxidants
- Skin lightening or de- pigmenting
- Suns creams

- Reduction of scars in face
- Treatment of specific disorder, e.g. acne

Cosmetics are a category of health and beauty products that are used to care for the face and body, or used to accentuate or change a person's appearance. Cosmetics are not only employed to modify appearance of an individual, but are also used for care of skin and body, besides to add fragrance to that person. Although, cosmetics are known for skin and body care, there are various types of cosmetics with specific and significant purpose. Many distinct races and cultures employ cosmetics in the day to day life. The creative self-expression and self-identity aspect are considered to be the key factors which contribute to the fame of cosmetics in current scenario. The main significance of cosmetics is to instill a new decent look to the person after application. Even though there is a booming success in cosmetic industry, the actual meaning of cosmetics is misunderstood in many Western countries as mere makeup products.

Types of lotions

Lotions are classified in following classes as.

- Simple Lotion
- Therapeutic Lotion
- Suspension Type Lotion
- Emulsion Type Lotion

Simple Lotion

This kind of lotion is used. They are used kind cooling and soothing effect for smooth skin. Moisture in the body also provide humectant effect.

Therapeutic Lotion

Therapeutic lotions contain different kind of therapeutic agent depending on desired effect required. E.g. calamine lotion as protectant and

Ideal properties of loation.

- It should be non-sticky.
- It should give a cooling effect.
- It must be non-irritant.
- It must be non-inflammatory.
- It should be attractive.
- Penetration through the epidermis of the skin should be desirable.
- Consistency should be optimum.
- Rubbed easily on the skin without role on effect.

Applications of lotion

Skin softening –

Regular use of lotion provides protection from environmental damage, while the mineral oil form a waterproof layer over the epidermis, helping to heal the skin by sealing in moisture.

Smoothing –

With regular use, a replenishing lotion can ease rough skin and create it as smooth and glossy because the rest of your body.

Cooling –

Cooling Cream is a wealthy and soothing moisturizing lotion designed to cool down hot or flushed skin.

Moisturizing –

They increase the skin's hydration (water content) by reducing evaporation. Naturally occurring skin lipids and sterols, further as artificial or natural oils, humectants, emollients, lubricants, etc., a part of the composition of commercial skin moisturizers.

Anti-allergic –

Lotions can be used to temporarily relieve itching and pain caused by minor burns/cuts/scrapes, sunburn, insect bites, minor skin irritations, or rashes from poison ivy, poison oak, or poison sumac.

Antiseptic –

Cuts and grazes, minor burns and scalds, tiny areas of sunburn, dry chapped skin, diaper rash bug bites, spots and pimples can all be treated with this antiseptic lotion, which also protects against infection.

Humectant –

Lotion humectants serve a dual product used to remove excess oil from the skin, tighten pores, and remove leftover makeup. A product very almost like astringents used nowadays is "toner." Astringents are more effective for oily and acne-prone skin and toners for dry skin.

Anti-acne –

Lotions are used for the treatment of skin disease. Penetrates pores to clear most skin disease blemishes, skin disease pimples, blackhead, and whiteheads. Helps stop the development of new skin disease blemishes, blackheads, and whiteheads.

Anti-inflammatory –

Topical anti-inflammatory lotions are used to ease muscle pains, sprains and strains. They can also help to ease painful inflammatory disease. Topical anti-inflammatory drug Lotions are generally prescribed rather than oral anti-inflammatory medicines as a result of their need, fewer side-effects.

Cleaning –

Cleansing lotions are skin cleaning products that are formulated to clear away dirt, impurities, grime, pollution, dead cells, and makeup traces from the skin, thereby allowing it to breathe.

Protective –

It helps to lock in the moisture and also works as a defense system for the skin by protecting it from sun exposure, UV radiation, and environmental aggressors.

Germicide –

Germicides are chemical agents in lotion that destroy microorganisms that cause illness. Topical antiseptics are applied to the skin, nails or mucous secretion membranes to cleanse wounds and stop infections.

Anti-fungal –

Antifungal lotions are used to treat fungal infections. They target processes and structures distinctive to fungi so as to kill fungal cells or stop them from growing.

Fairness –

Fairness lotions are enriched with a lot of skin-brightening ingredients that help in evening out your complexion by reducing the appearance of dark spots, pigmentation and textured skin.

Anti-aging –

It temporarily plumps the skin, creating lines and wrinkles less visible. Moisturizers are lotions, creams, gels and serums made from water, oils and alternative ingredients, like proteins, waxes, glycerin, lactate and urea. Wrinkle creams usually are moisturizers with active ingredients that provide additional.

II. MATERIALS AND METHOD

Composition of Perfume Lotion for 50 ml Aqueous Phase:

Various material (Ingredient) and their role in perfume lotion formulation are listed below in table:

Table 1: List of Aqueous Phase Ingredients

Sr. No.	Ingredient	Quantity	Uses
1.	Aloe vera pulp extract	20ml	Moisturizer
2.	Triethanolamine	2ml	Emulsifier
3.	Glycerin	2ml	Humectant
4.	Distilled water	9ml	Diluents
5.	Methyl paraben	0.5gm	Preservative
6.	Propyl paraben	0.5gm	Preservative
7.	Rose Water	1ml	Perfume

Oil Water Phase

Table 2: List of Oil Phase Ingredients

Sr. No.	Ingredient	Quantity
1.	Stearic acid	8gm
2.	Coconut oil	3ml
3.	Almond oil	4ml

Following step uses in formulation of Perfume Lotion:

Take aloe vera pulp extract (20ml) into beaker.



Then add other ingredients such as triethanolamine(2ml), glycerin(2ml), distilled water(9ml), methyl paraben(0.5gm) and propyl paraben(0.5gm).



Put the beaker on hot plate at 75°C (aqueous phase)



In other beaker, weigh the Stearic acid(8gm), coconut oil(3ml), almond oil(4ml) and mixed proper.



Put the beaker on hot plate at 75°C (oil phase)



Then add heated oil phase in heated aqueous phase with continue stirring



After mixing both phases add rose water (1ml)



Perfume lotion was prepared

Aloevera:

Table 3: Detail of Aloevera

Synonyms	Aloe, Ghritkumari
Family	Liliaceae
Biological source	Leaves of aloe barbadensis
Botanical name	Aloe barbadensis miller
Chemical constituent	Aloin, aloes in

- Aloevera stimulates fibroblast which produced the collagen and elastin fibers making the skin more elastic and less wrinkled. It also has cohesive effect on the superficial flaking epidermal cells by sticking them together, which softens the skin
- Aloevera is belongs to the liliaceae family and is often used in cosmetics for lotion.
- It has a healing impact on Skin wounds and has the ability to moisturize and soften the skin. Aloevera’s antimicrobial and hydrating properties protect skin against microbial degradation and keep it from becoming dry.
- Aloevera’s cooling action Offers a cooling feeling and inhibits the onset of sunburn .This medication is use as a moisturizer to treat or prevent dry, rough, scaly, itchy skin and minor skin irritations.

Use of Aloevera

- Help out moisturize the skin.
- Boosts healing of wounds.
- Fight skin-ageing
- Reduces infection and acne.
- Lighten blemishes on the face



Fig. 1: Aloevera Plant

Triethanolamine

- Triethanolamine used as an emulsifier.
- It balance the pH level.
- It hydrate and nourish the skin.

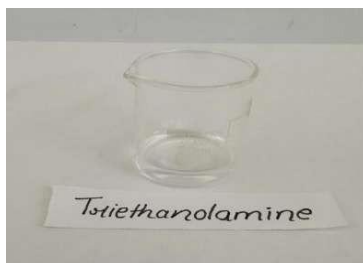


Fig. 2: Measuring of Triethanolamine

DOI: 10.48175/IJAR SCT-22277

Glycerine :

- Glycerine uses as moisturizer.
- It soothes dry and irritated skin.
- It treated acne and scars.
- It helps to reduce wrinkles.
- It has Anti - aging property.
- It is used as cleanser.
- It improve skin permeability

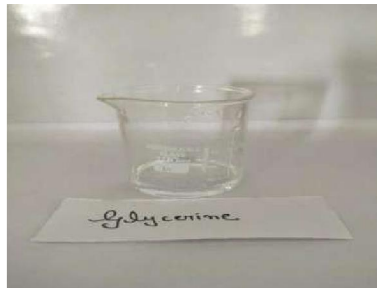


Fig. 3: Measuring of Glycerine

Stearic Acid:

- Stearic acid used as emulsifier to thicken and stabilized the lotion.
- It has emollient property which helps to moisturize the skin to keep it softer and smoother.
- It has occlusive property, protecting the skin surface from Trans- Epidermal Water Loss (TEWL).
- It helps the skin's pH level



Fig. 4: Weighing of Stearic acid

Coconut oil:

- Coconut oil is moisturizing agent and provide dry skin.
- It promote woundhealing and reduce inflammation.
- It contain anti-bacterial and anti-fungal properties.
- It has anti- oxidant property.



Fig. 5: Measuring of Coconut oil
DOI: 10.48175/IJAR SCT-22277

Almond oil:

- It may act as an antioxidant.
- It may have anti-inflammatory action.
- It may act as an immunity booster.
- It may increase good cholesterol levels.
- It may have antibacterial activity.
- It may have anti-fungal properties.
- It may act as an emollient (moisturizing agent)



Fig. 6: Measuring of Almond oil

Methyl Paraben and Propyl Paraben:

- These are a type of chemical that are often used as preservatives to give products a longer shelf life.
- They're added to food or cosmetics to prevent the growth of mold and other harmful bacteria.
- They are antimicrobial food preservatives.
- They are antifungal agents.
- These are plant metabolites.
- These are allergenic testing agents.



Fig. 7 : Weighing of Methyl Paraben



Fig. 8: Weighing of Propyl Paraben
DOI: 10.48175/IJAR SCT-22277

Rose water:

- Rose water can clam your skin.
- It has anti-aging property.
- It can be used to create fragrance.
- Rose water is a powerful ingredient in a facial treatment.
- It may hydrates the skin.
- It may help balance skin pH level.
- It has anti-inflammatory effect.



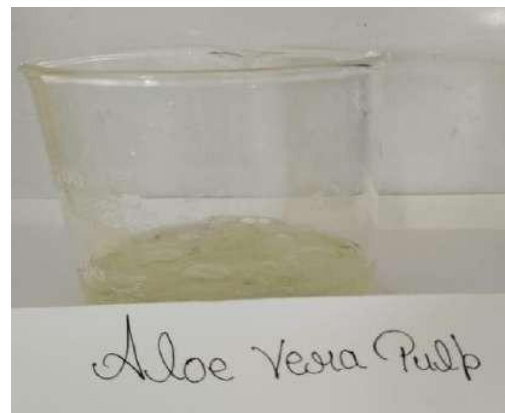
Fig. 9: Measuring of Rose water

Preparation of Aloe vera pulp extract

- Collect the aloe vera leaf from aloe vera plant.
- Wash leaf with distilled water.
- Leaf is dissected longitudinally by sterile knife.
- Then semi-solid aloe vera pulp is collected.
- Grind pulp into the grinder to get uniform solution.
- Then filter it through the muslin cloth to remove impurities.
- Aloe vera pulp extract is obtained.
- At last cover beaker with the help of silver foil to prevent from microbial growth



Fresh leaves of Aloe vera



Aloe vera pulp



Filter of Aloe vera pulp Aloe vera pulp extract

Preparation procedure of Perfume Lotion

Step: 1 (For aqueous phase)

Take aloe vera pulp extract in a borosilicate glass beaker. Add triethanolamine, glycerine, distilled water, methyl and propyl paraben into the beaker. Then put the beaker on hot plate at 75°C. Stir the solution with glass rod.

Step: 2 (For oil phase)

In other beaker, take stearic acid, coconut oil, and almond oil and put the beaker on hot plate at 75°C.

Step: 3

Then gently add heated oil phase in heated aqueous phase with continue stirring by glass rod.

Step: 4

When lotion is formed then add rose water as fragrance



1. Aqueous phase



2. Oil phase



3. Aqueous phase and oil phase on hot plate



4. Adding oil phase in aqueous phase



5. Prepared formulation

6. Finished product with label

Fig. 11: Preparation procedure of Perfume

Instruments and its role / uses

Various types of instrument used in preparation of skin infection care cream formulation are listed below

Table 4: Instruments and its uses

S.NO.	INSTRUMENT	ROLE/USES
1.	Weighing balance	Weighing
2.	Hot plate	Heating
3.	pH Meter	Measurement of pH
4.	Thermometer	Temperatur

EVALUATION PARAMETER

Spreadability- It is the term expressed to denote the extent of area to which formulation readily spreads on application to skin or affected part. The therapeutic efficacy of a formulation also depends upon its spreading value [16]. It is calculated by using the formula:

$$S = M \cdot L / T$$

Where, M = weight tied to upper slide L = length of glass slides

T = time taken to separate the slides

Determination of pH- pH of 1% aqueous solution of the formulation was measured by using a calibrated digital pH meter at constant temperature. pH value of the formulation is 5.5.

Homogeneity- All developed gels were tested for homogeneity by visual inspection after the gels have been set in the container. They were tested for their appearance and presence of any aggregates.

Viscosity- The measurement of viscosity of the prepared gel was done with a Brookfield viscometer spindle no.7 and speed 60rpm at 25.C.

Smoothness- The smoothness of the lotion formulation was tested by rubbing between the fingers and observes whether the gel is smooth, clumped, homogenous or rough.

Absorbency- Rated at which product is perceived to be absorbed into skin.

Evaluated

by noting changes in skin surface. Rated slow-moderated-fast.

Consistency and Greasiness- They both were checked by applying on Appearance- All the formulation was light

green. Washability- The product was observed under running water. Irritancy Test- The cream was applied on left hand dorsal side surface of 1sq.cm and observed in equal intervals up to 24hrs for irritancy, redness, and edema. The did not produce any irritation or redness on skin.

For external use only Add a dollop (around a 10p coin size) to your hand (more if your skin is particularly dry or on rougher areas such as elbows and knees)
Rub your palms together to warm up the lotion.
Use your hands to massage the lotion into your body in small circular motions

III. RESULT AND DISCUSSION

Aloe vera plant has potential in pharmaceutical, nutritional and cosmetic industries. The processing of Aloe vera requires critical attention in time, temperature, and sanitation. The herbal gel and body lotion was prepared and subjected to evaluation of various parameters.

The herbal formulation was greenish in colour. The pH was constant throughout the study to about 5.5 which lies in the normal pH range of the skin and the gel did not produce any irritation upon application to the skin. Viscosity is the most important parameter in the evaluation as it governs the many properties of the formulation such as, Spreadability, pourability of the product. The values of Spreadability indicate that the gels are easily spreadable by small amount of shear. The measurement of extrudability becomes an important criterion. All Gel formulations had an excellent extrudability. The stability test was carried out for three months and results revealed that all gels showed better stability. During stability study, there was not much variation in viscosity after testing at different temperature conditions. The preparation was stable under normal storage conditions. These results indicated that the herbal gel had no adverse effects on the topical area. It is shown that this herbal preparation is useful in inflammation, wound healing, and anti-aging.

ACKNOWLEDGEMENT

Authors are thankful to Assistant professor Mrs. M. Shiroja for guidance Chilkur Balaji college of pharmacy HYD. for providing facilities for the Research work.

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