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Research Article

Formulation And Evaluation Of Perfume Lotion

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ABSTRACT

The lotion is a semisolid liquid dosage form that contains one or more active ingredients in an appropriate vehicle. Perfume lotions are liquids for an external application that are intended to be applied to the unbroken skin without friction. They are aqueous, alcohol, or polyols based solutions or suspensions containing topically active therapeutic agents. A lotion is a low viscosity topical preparation intended for application to the skin. By contrast, creams and gels have a higher viscosity, typically due to lower water content. Perfume lotion is applied to external skin with bare hands, a brush, a clean cloth, or cotton wool. Lotions may contain antimicrobial preservatives and other appropriate excipients such as stabilizers etc. Perfume lotions are used for their cooling, soothing, protective, and moisturizing effect and also therapeutic effect depending on ingredients used. They are applied directly to skin with the help of some absorbent material, such as, cotton wool or gauze soaked in it. The herbal cosmetics are those when natural herbs and their products used for their aromatic value in cosmetic preparation among consumers for herbal products triggered the demand for natural products and natural extracts in cosmetics preparations. Aloe vera is oldest medicinal plant ever known and the most applied medicinal plant worldwide.

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

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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 non-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
- Sunscreens
- 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.

- a. Simple Lotion
- b. Therapeutic Lotion
- c. Suspension Type Lotion
- d. Emulsion Type Lotion

a. 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.

b. Therapeutic Lotion

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



astringent and salicylic acid lotion as keratolytic bacteriostatic and fungi static.

c. Suspension Type of Lotion

Some lotions contain insoluble solids called suspension type of lotion. Here, bentonite, sodium carboxy methyl cellulose uses as suspending agent. E.g. calamine, Sulphur, zinc oxide.

d. Emulsion Type of Lotion

These are diluted lotions with o/w emulsion stabilize by emulsifying agents like emulsifying wax e.g. Benzoyl benzoate lotion.

Ingredients use in lotion

1. Oil

Oil is another key ingredient use in lotion. Some ingredient will required for liquid oils while others will require for solid oils or butters, and there are many varieties to decide on from avocado, coconut, and olive oils are used in preparation of lotion.

2. Humectant

Humectant are substance that attract water from the air or from deeper in the skin. A humectant is a common moisturizing agent found in lotions, shampoos, and alternative beauty product used for skin. They're known for their ability to retain moisture of the skin and hair. E.g. glycol, propylene glycol.

3. Emollients

Emollient are substances that soften and moisturize the skin decrease itching and flaming dry skin is caused by loss of water in upper layer of skin. Emollient work by forming an oily layer on top of skin that traps water in skin.

4. Emulsifier

An emulsifier (also called a emulgent) is a substance that stabilizes an emulsion by increasing its kinetic stability. One class of emulsifiers is known as surface active agents, or surfactants. Emulsifiers work because their molecules have two parts: one part loves water and one part loves oil. Even though oil and water are the two largest ingredients for making lotions, they will not

combine without help. Emulsifiers help the two ingredients mix and stay mixed for a smooth, uniform lotion. E.g. Cetearyl alcohol, polysorbate.

5. Anti-Oxidant

Antioxidant are substances that can prevent a slow damage to cell cause by free radicals unstable molecules that the body produce an a reaction to environment other prevention Fine lines, wrinkles, loose skin, acne breakouts, and a blotchy skin tone are all signs of oxidative stress, which breaks down collagen, hampers skin's natural repair process, and causes inflammation. Antioxidants can help prevent and repair these obvious indications by removing free radicals, giving skin a more youthful look. Antioxidants come in a variety of forms, some of which are more powerful than others. Topical skin care treatments containing antioxidant can protect cells from UV light, pollution, and other environmental conditions that might cause free radical damage.

6.

These agent have the ability to prevent the growth of microorganism they are usually to maintain the stability of the for desired period of time. All lotions need preservatives to prevent the various ingredients from deterioration citric acid is one of the most common selections, and it also helps lower the pH of the lotion to be additional appropriate for various skin type.

7. Color

Addition of color gives pleasant appearance to the preparation. The added color must stable in lotion.

8. Bacteriostatic

Medicated lotion passes this properties E.g. phenol, thymol, boric acid etc.

9. Cooling effect

Cooling effect is desired when a lotion are used on the skin E.g. menthol are generally used in preparation of lotion.

Ideal properties of lotion

- It should physically and chemically stable.



- It should have optimum pH.
- 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 any effect.

Applications of lotion

a. Skin softening –

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

b. Smoothing –

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

c. Cooling –

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

d. 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.

e. 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.

f. 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.

g. 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.

h. 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.

i. 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.

j. 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.

k. 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.

l. 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

m. Anti-fungal –



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

n. 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,

Composition of Perfume Lotion for 50 ml

Aqueous Phase:

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

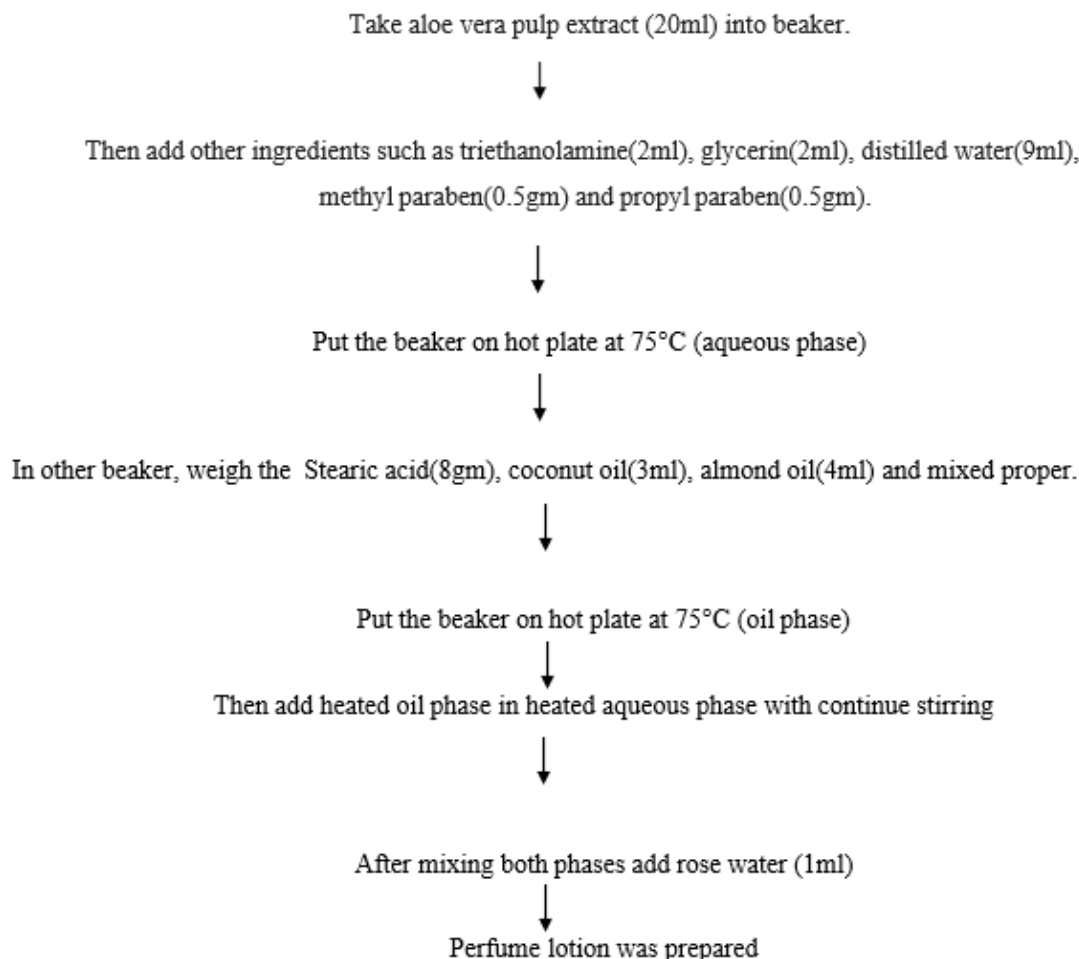
Sr. No.	Ingredient	Quantity
1.	Stearic acid	8gm
2.	Coconut oil	3ml
3.	Almond oil	4ml

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.

MATERIALS AND METHOD

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

Following step uses in formulation of Perfume Lotion:



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

1. Help out moisturize the skin.



2. Boosts healing of wounds.
3. Fight skin-ageing.
4. Reduces infection and acne.
5. Lighten blemishes on the face



Fig. 1: Aloe vera Plant

Triethanolamine:

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

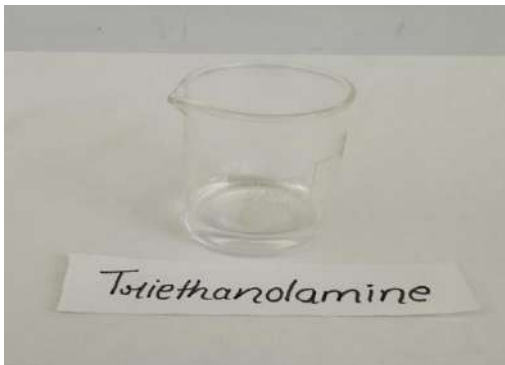


Fig. 2: Measuring of Triethanolamine

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.

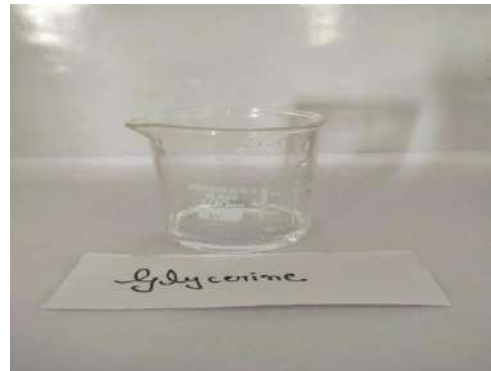


Fig. 3: Measuring of Glycerine

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.

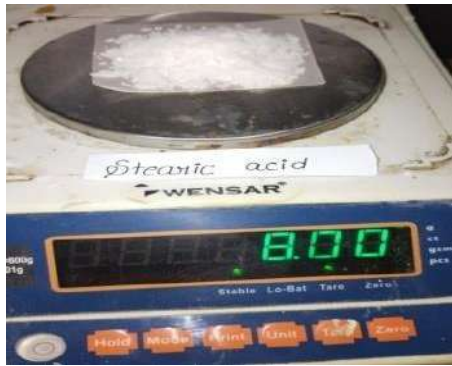


Fig. 4: Weighing of Stearic acid

Coconut oil:

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



Fig. 5: Measuring of Coconut oil

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

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.



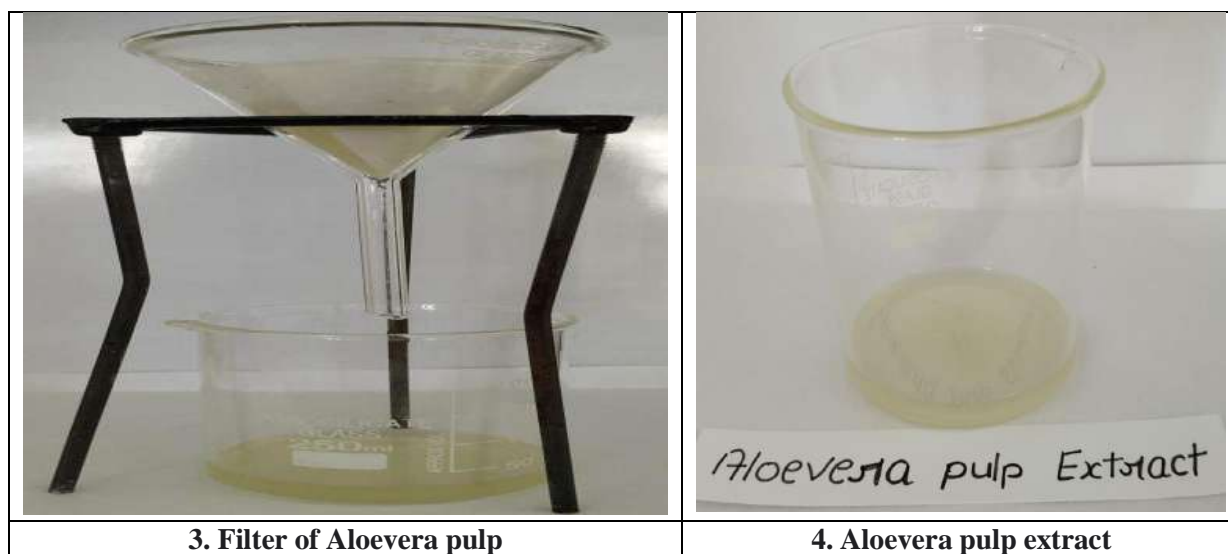


Fig. 10: Preparation of Aloe vera Pulp Extract

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)

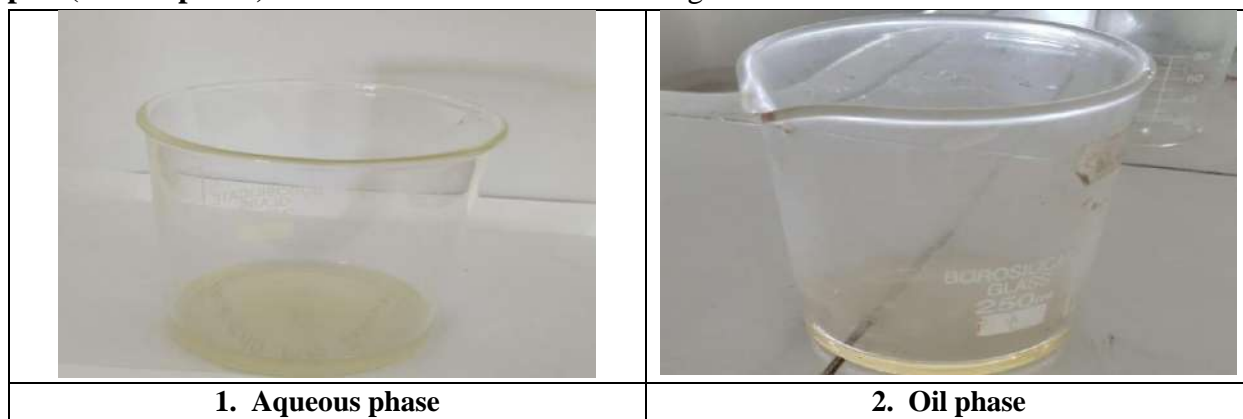
In other beaker, take stearic acid, coconut oil, and almond oil and put the beaker on hot plate at 75°C.

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.



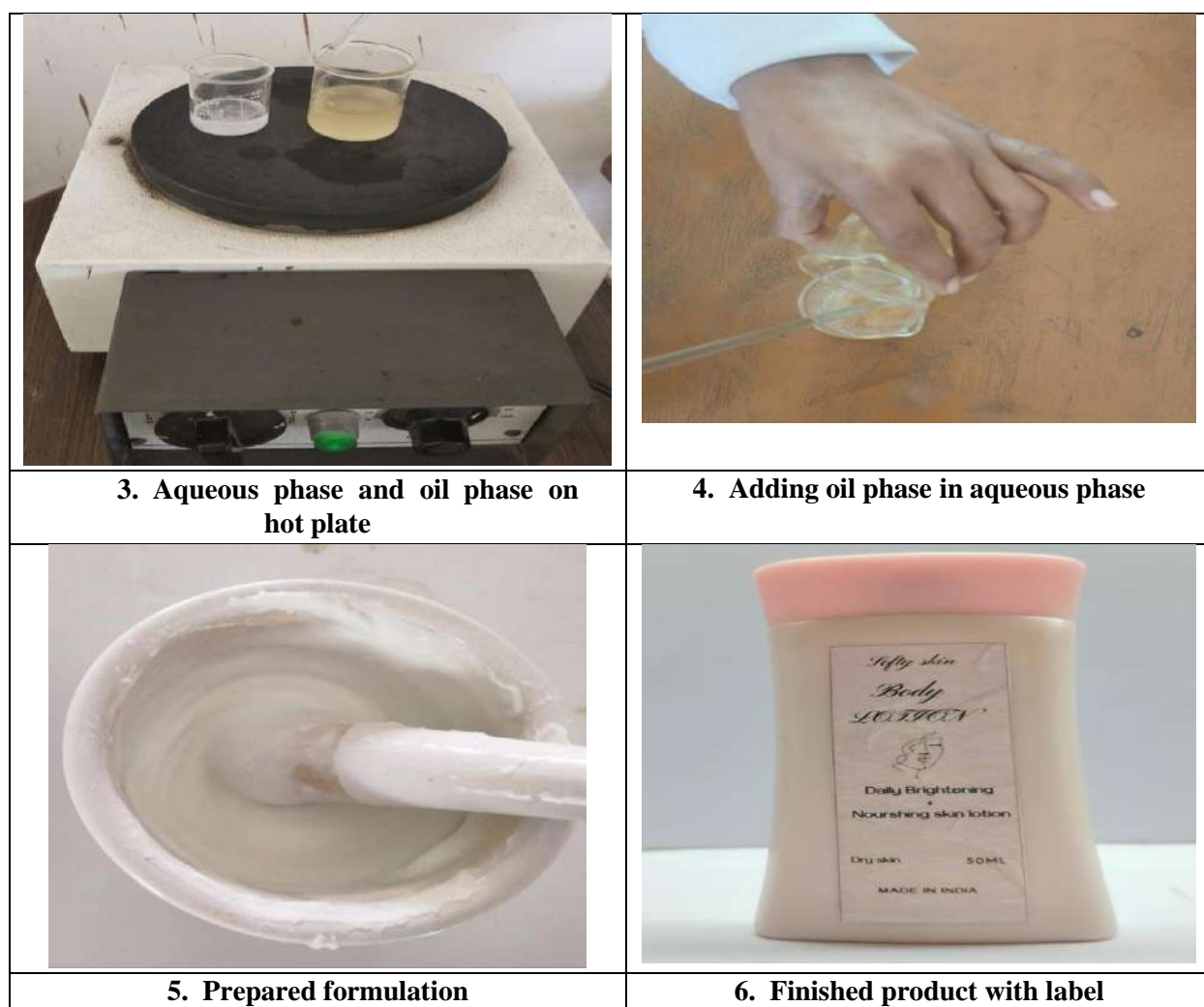


Fig. 11: Preparation procedure of Perfume

Instruments and its role / uses

listed below:

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

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	Temperature

EVALUATION OF PERFUME LOTION

The perfume lotion was evaluated for organoleptic properties, homogeneity, absorbency, smoothness, spreadability, irritancy, pH, stability and washability test.

Determination of organoleptic properties:-

The appearance of the lotion was judged by its color, odor, and texture.

Determination of pH:-

The pH meter was calibrated and measured the pH of perfume lotion by digital pH meter placing in the beaker at a temperature room temperature.

Washability Test:-

The removal of the lotion applied on skin was done by washing under tap water with minimal force to remove the lotion.

Irritancy test:-

The lotion was applied on left hand dorsal side surface of 2sq.cm and observed in equal intervals up to 24hrs for irritancy, sensitivity and edema.

Determination of homogeneity:-

The formulations were tested for the homogeneity by visual appearance and by touch.

Spreadability test:-

1gm of the perfume lotion was taken in glass slide and cover with second slide. Then a weight of 100gm was placed on upper slide. The weight was removed and extra formulation was scrapped off. The lower slide was fixed on board of apparatus and upper slide was fixed with non-flexible string on which 100gm load was applied. Time taken by upper slide to slip off was noted down.

$$S = m \times l / t$$

Were,

S – Spread ability

m- Weight tied to upper glass slide. l- Length moved on a glass slide

t- Time taken.

The determinations were carried out in three times and the average are readings was recorded and calculate.

Stability test:-

The stability test of final optimized lotion was measured out and it was found that the lotion was stable in room temperature for at least three months. The value of pH, viscosity and spreadability all lay within the required range. In

which no major changes in values of pH, viscosity and spreadability as compared to the initial value of formulation.

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.

RESULT AND DISCUSSION

The perfume lotion was formulated by using various type of ingredients such as Aloe vera pulp extract, glycerine, coconut oil and rose water etc . Aloe vera contain antimicrobial and hydrating properties protect skin against microbial degradation and moisture to skin. Glycerine has anti- aging property. The perfume lotion was evaluated to various parameter such as physical parameter, pH, washability, irritancy, homogeneity, smoothness etc used to check the quality and performance of formulation. The effect of different ingredients in the formulation was investigated The physical property of formulation such as color is white, odor is pleasant, and state is semi- solid. The pH of formulation is 5.97 and washability is also good.

Physical Evaluation

Physical evaluation such as color, odor, texture and state were checked. The color was found to be white, odor found to be pleasant, texture found to be smooth and state was found to be semi- solid.

Table 5: Physical evaluation of Perfume Lotion

Sr. no.	Parameter	Formulation
1.	Color	White
2.	Odor	Pleasant
3.	Texture	Smooth
4.	State	Semi - solid

Washability

Washability test was carried out by applying a small amount of perfume lotion on the hand and then washing it with tap water. The formulation is easily washable.

Irritancy

The perfume lotion is not showing any irritancy and redness on skin.



Fig. 12: Irritancy test of Perfume Lotion

pH

pH of the perfume lotion was found to be 5.97 during the study which is slightly acidic good for skin.



Fig. 13: pH of Perfume Lotion

Stability test:-

The stability test was carried out for three months and results revealed that the all lotions showed better stability. The preparation was stable under normal storage conditions.

Smoothness

The perfume lotion is thin and smooth.

Absorbency

The perfume lotion is absorb easily.

Spreadability test

The values of spreadability indicate that the perfume lotion is easily spreadable by small amount of shear. The lotion was spread easily by using spreadability method.



Fig. 14: Spreadability test of Perfume Lotion

CONCLUSION:

Perfume lotion are designed for moisturize and soft the skin. Lotions are semisolid formulations widely acceptable by the world wide the skin is the most accessible part of the body. In this study, a formulation of perfume lotion was formed and evaluated in terms of their organoleptic properties [appearance, Color and odor etc] and physiological parameters pH, spreadability, washability and irritancy test etc. The present work focus on the herbal extracts provide nutrients necessary for the healthy skin. There are numerous herbs available naturally having different uses in cosmetic preparations for skincare as antioxidants. The present study revealed that herbal cosmetic are very safe and does not produce any toxic and adverse reactions compare to marketed cosmetics products.

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