



Research Article

Formulation And Evaluation Of Herbal Makeup Remover Oil

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ARTICLE INFO

Received: 27 Aug 2024

Accepted: 31 Aug 2024

Published: 05 Sep 2024

Keywords:

Make Up remover,
Strawberry, Olive Oil,
Castor Oil, Limonene

DOI:

10.5281/zenodo.13695536

ABSTRACT

Cosmetic ingredients and dust remain on facial are difficult to remove by normal cleansers or water because consist high water proof elements. Therefore, producing of natural makeup remover products in needed for the proper removing of cosmetic without irritation to the skin. The Makeup remover oil was prepared by using the W/O emulsion in which the water phase ingredients is Aloe-Vera extract, Strawberry, Carbopol, Methyl paraben, Distilled water, and the oil phase ingredient is Castor oil, Olive oil, Limonene and Almond oil. Different parameters were evaluated i.e., organoleptic properties, pH, Spreadability, homogeneity, etc. The formulation is showed a good appearance, and adequate pH, Spreadability, homogeneity, and compatibility were observed. Also, the formulation showed no irritancy and they were easily washable. The formulation were stable at room temperature. All herbal ingredients showed significantly different activities.

INTRODUCTION

Herbal Cosmetic

The word cosmetic was derived from the Greek word —kosm tikos meaning having the power, arrange, skill in decorating. The origin of cosmetics forms a continuous narrative throughout the history of man as they developed. The man in prehistoric times 3000BC used colors for decoration to attract the animals that he wished to hunt and also the man survived attack from the enemy by coloring his skin and adorned his body

for protection to provoke fear in an enemy (whether man or animal) The origin of cosmetics were associated with hunting, fighting, religion and superstition and later associated with medicine. The skin diseases are common among all age groups and can be due to exposure towards microbes, chemical agents, biological toxin present in the environment, and also to some extend due to malnutrition. The natural content in the botanicals does not cause any side effects on

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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.



the human body; instead enrich the body with nutrients and other useful minerals.

The requirements for the basic skin care:

Cleansing agent:

It removes the dust, dead cells and dirt that chokes the pores on the skin. Some of the common cleansers include vegetable oils like coconut, sesame and palm oil.

Toners:

The toners help to tighten the skin and keep it from being exposed to many of toxin that are floating in air or other environmental pollutants.



Fig. 1 Marketed Herbal cosmetic

The demand of herbal medicines is increasing rapidly due to their lack of side effects with the beginning of the civilization; humankind had the attractive plunge towards impressing others with their looks. Advantages of Herbal Cosmetics Herbs are important for their disease prevention and health promotion properties having following advantages which are described below:

A. Natural products

Herbal cosmetics are natural and free from all the harmful synthetic chemicals which generally may turn out to be lethal to the skin.

B. Safe to use

Natural cosmetics are protected to utilize. They are hypoallergenic and tested and proven by dermatologists to be safe to use anytime, anywhere. Since they are made of natural ingredients, people don't have to worry about getting skin rashes or experience skin itchiness.

C. Compatible with all skin types

No matter if you are dark or fair; you will find natural cosmetics like foundation, eye shadow, and lipstick which are appropriate irrespective of your skin tone. Women with oily or sensitive skin can also use them and never have to worry about degrading their skin condition.

D. Cosmeceuticals

Cosmeceuticals is fastest growing segment of the beauty industry. Cosmeceuticals are cosmetic-pharmaceutical products intended to improve the health and beauty of the skin by providing a specific result, ranging from acne-control and anti wrinkle effects, to sun protection.

History

The history of cosmetics is present for at least 7,000 years and is present in almost every society around the globe. The earliest form of human ritual involving cosmetic is assumed to be the body art involving cosmetics. Utilized red mineral pigments (red ochre) besides crayons associated with the emergence of Homo sapiens in Africa are considered to be the binding evidence for the above statement. Roll on deodorant and aerosol deodorant were established in market in the year of 1952 and 1965 respectively. Russian ballet and colored makeup were introduced around the same time in 1910. It should be noted that current cosmetic manufacturers started the ear manufacturing around early 1900's.

Cosmetic Production in India

In the period of 2006-2008, the growth of Indian cosmetic industries had been 7.48%. While the marked growth is considered to be the reason of fashion mindedness and improved consuming power, the industry was expected to maintain the growth momentum during the period of time 2009 to 2012. In recent years, cosmetic manufacture in India has received orders from orders from overseas markets.

MAKEUP REMOVER OIL

Makeup cosmetic are an important element of fashion; they are used for improve appearance and

desired skin color. Makeup must be removed after it has provided the goal of improving the appearance of the user. When user want to remove makeup is not easily, because most of the makeup type are water prove and contain a high level of oil, minerals like Titanium oxide, Zinc oxide, iron oxide and kaolin clay etc, after cleaning remain part of the makeup on the skin may affect skin physiology. The appearance and function of the skin care are maintained by an important balance between the water content of the stratum corneum and skin surface lipids. The skin represents the most superficial layer of the body and so it is constantly exposed to different environmental stimuli. Removing makeup from the skin is very important for the care of the face. It must be as efficient as possible since fatty residues such as excess sebum, the remains of cosmetic products used daily and makeup products accumulate in the skin creases and on the surface of the skin, and they may block the pores of the skin and thus give rise to the appearance of spots. Charged surfactants, such as anionic, are the most aggressive. Sodium lauryl sulfate (SLS) is astringent surfactant that, given its small hydrodynamic radius, is the only surfactant that can extract the intercellular lipids and disrupt the lipid bilayer. Evaluation of makeup remover solution comprise the quality control tests including visual assessment and physiochemical property such as pH, density, viscosity, Cleaning action, dirt dispersion, Sensitivity test, microbial growth test, surface tension, and stability.

History of Makeup Removal Oil

While we can't confirm if kids throughout the ages liked or disliked bath time, what we can tell you is that cleansers of all types have been used throughout the millennia to remove oil and dirt, as well as dead skin cells and makeup from the skin

(face and body). The history of cleansing evolved as follows: initially it was practiced for hygiene, then religion, and then finally for appearance and vanity. For thousands of years, cleansers were used solely to prevent illness and disease. As time went on, man discovered the cleansing benefits of plant based cleansers and began using them as part of religious rituals.

How to Use It

- Need about 4-5 drops, depends on your preferences and need.
- Use it at the first step in the skincare routine at night, as the first cleanser to remove all dirt, makeup and oil.
- Use it on dry skin, massage it, and then add some water to emulsify it, then massage again before rinse it off.



Fig. 2 Makeup remover oil (Prepared)

ANATOMY OF HUMAN SKIN

Human Skin:

The skin is the outer covering of the body. It is the largest organ of the integumentary system. The skin has multiple layers of ectodermal tissue and guards the underlying muscles, bones, ligaments and internal organs. Human skin is similar to that of most other mammals, except that it is not protected by a pet. Though nearly all human skin is covered with hair follicles, it appears hairless. There are two general types of skin, hairy and globous skin.

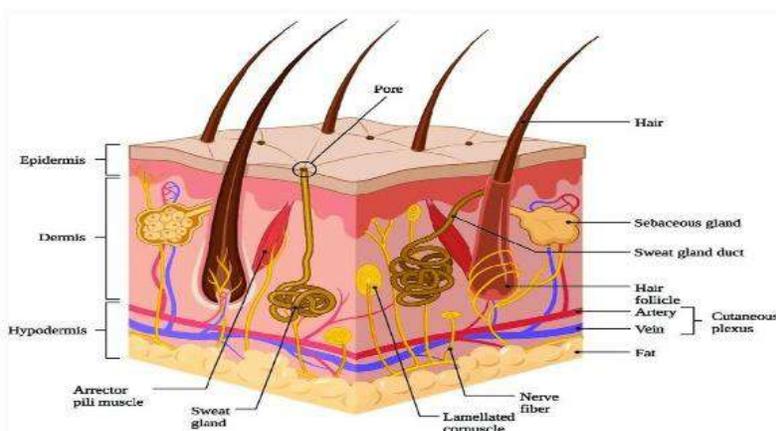


Fig.3. Human Skin

Functions of skin:

Skin performs the following functions:

a. Protection:

It is an anatomical barrier from pathogens and damage between the internal and external environment in bodily defence, Langerhans cells in the skin are part of the adaptive immune system.

b. Sensation:

It contains a variety of nerve endings that react to heat and cold, touch, pressure, vibration, and tissue injury, see some to sensory system and hepatics.

c. Heat regulation:

The skin contains a blood supply far greater than its requirements which allows precise control of energy loss by radiation, convection and conduction. Dilated blood vessels increase perfusion and heat loss, while constricted vessels greatly reduce cutaneous blood flow and conserve heat.

d. Control of evaporation:

The skin provides a relatively dry and semi-impermeable barrier to fluid loss. Loss of this

function contributes to the massive fluid loss in burns.

e. Aesthetics and communication:

Others see our skin and can assess our mood, physical state and attractiveness.

f. Storage and synthesis:

Acts as a storage center for lipids and water, as well as a means of synthesis of vitamin D by action of UV on certain parts of the skin.

Skin layers

Skin is composed of three primary layers:

- The epidermis, which provides waterproofing and serves as a barrier to infection.
- The dermis, which serves as a location for the appendages of skin.
- The hypodermis subcutaneous adipose layer.

PLAN OF WORK

- Selection of plant
- Literature survey
- Collection of Strawberry
- Formulation of makeup remover oil
- Evaluation of makeup remover oil

Table: 1 Formulation table of Makeup remover oil with ingredients and quantity

Aqueous Phase

Table 1: List of Ingredients of Aqueous phase

Sr. no.	Ingredients	Quantity
1.	Strawberry	5.0 ml
2.	Carbopol	1.0 gm
3.	Aloevera gel	1.0 ml

4.	Methyl paraben	0.2 gm
5.	Distilled water	Q.S

Table 2: List of Ingredients of Oil phase

Oil Phase

Sr. no.	Ingredients	Quantity
1.	Almond oil	1 ml
2.	Castor oil	0.5 ml
3.	Olive oil	0.5 ml
4.	Limonene	1ml

EXTRACTION

- Extract can be defined as preparations of crude drug which contain all the constituents which are soluble in the solvent.
- In this method the selected components are dissolved by the use of selective solvents known as menstrum & undissolved part is a marc. After the extraction unwanted matter is removed. Extracts are prepared by using ethanol or other suitable solvent

Decoction

- In this process the crude drug is boiled in a specified volume of water for a defined time; it is then cooled and strained or filtered.
- After boiling, the liquid is strained and water is passed through the content of the strainer to make the required volume.
- This procedure is suitable for extracting water-soluble, heat stable constituents.

Process of decoction

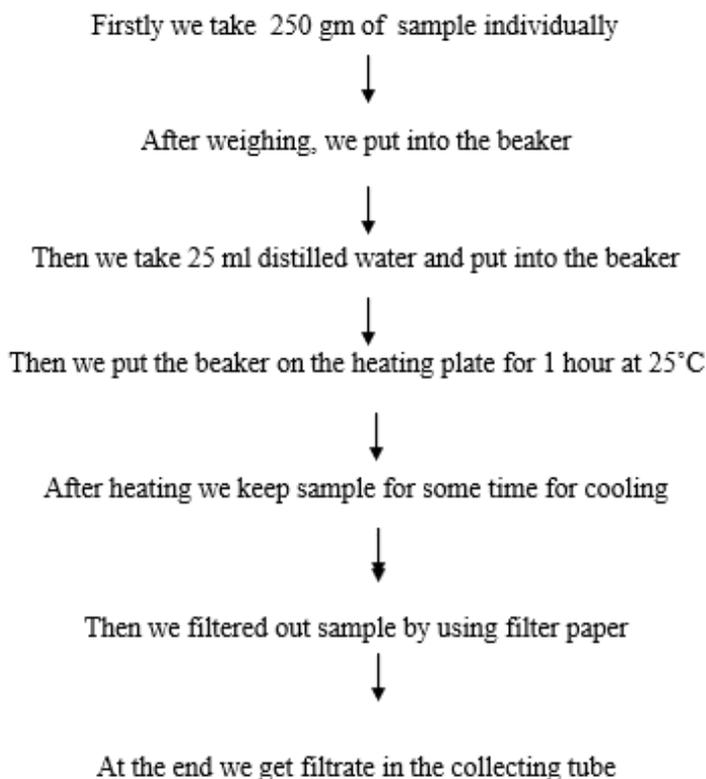




Fig. 4 Extraction of Strawberry

Preparation of Makeup remover oil

Take measured amount of Strawberry extract into beaker and put on the hot plate at 25°C

with continue stirring



Then add other ingredients such as almond oil, olive oil, castor oil and limonene



Weigh 2ml Carbopol



Transferred into a beaker, put on the hot plate at 25°C



Measured 0.2gm of methyl paraben pour into the beaker with continuous stirring



Mix all the ingredients vigorously



Makeup remover oil had been prepared.

MATERIALS AND METHODS

Instruments and its role / uses

Various types of instrument used in preparation of Makeup remover oil formulation are listed below:

Table: 3. List of Instrument and its role

S.NO.	INSTRUMENT	ROLE/USES
1.	Weighing balance	Weighing
2.	Heating mantle	Heating
3.	pH Meter	Measurement of pH
4.	Thermometer	Temperature

Various materials and their role in Makeup remover oil formulation are listed below in the table:

Table: 4. List of Ingredients

Sr. no.	Ingredients	Uses
1.	Strawberry	API
2.	Almond Oil	Moisturizer
3.	Olive Oil	Enhancer of Makeup remover
4.	Castor Oil	Antioxidant
5.	Limonene	Deep Cleansing
6.	Carbopol	Emulsifier
7.	Aloevera gel	Hydration
8.	Methyl paraben	Preservative

Strawberry(API)



Fig. 5 Strawberry

- It helps combat the appearance of fine lines, wrinkles, and crow feet.
- Help exfoliate your skin to reveal fresh and glowing skin.
- Strawberries help hydrate your skin.
- It also helps remove dark spots and tan caused by sun exposure.

Almond Oil



Fig. 6 Almond oil

- Almond oil has several potential benefits for skin and hair health.

- Almond oil is a potent source of antioxidants, vitamins, and other that are vital for skin health.
- There are two types of almond oil: bitter almond and sweet almond. Each type has different properties and can be used in different ways.

Olive oil

- Olive oil contains squalene and vitamin E.
- Squalene helps retain moisture, while vitamin E enhances the skin's ability to absorb and hold water.
- Applying olive oil can keep your skin hydrated and supple.
- Rich in antioxidants, olive oil combats oxidative stress associated with skin aging.
- It can also boost collagen production, promoting youthful skin.



Fig. 7 Olive oil

Castor Oil

- It was likely used as fuel for lamps as well as for medicinal and beauty purposes.
- Cleopatra reportedly used it to brighten the whites of her eyes.
- It's still used as a laxative and in skin and hair products.
- It's also an ingredient in motor oil, among other things.
- It may provide health benefits for the face and skin, including helping manage acne, moisturizing, and reducing inflammation.



Fig. 8 Castor oil

Aloevera

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



Fig. 9 Aloevera

Carbopol

- Carbopol is used as a thickener in lotions, creams and gels.
- It is also used to stabilize, suspend, and control the release of pharmaceutical products.
- At low concentrations.
- Suspensions flow easily with a slippery feel.

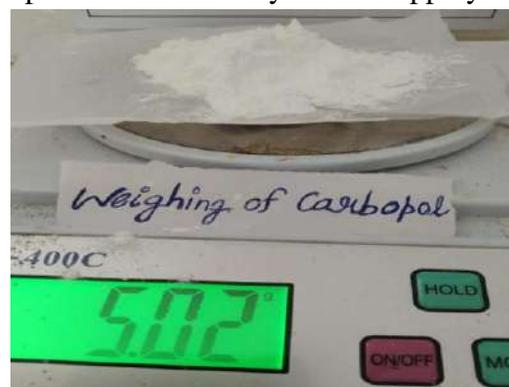


Fig.10 Carbopol

Methyl Paraben

- Methyl parabens are chemicals 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.
- Many products that contain methyl paraben also contain one or two other types of parabens in their ingredients.
- It contribute to skin sensitivities and breakouts.



Fig. 11 Methyl paraben

Limonene

- Limonene is a chemical found in the peels of citrus fruits and in other plants.
- It is used to make medicine.
- Limonene is used for obesity, cancer, and bronchitis, but there is no good scientific evidence to support these uses.
- In foods, beverages, and chewing gum, limonene is used as a flavouring.



Fig. 12 Limonene

EVALUATION PARAMETERS

Organoleptic Properties

This test was done by visual inspection.

pH Test

pH of makeup remover was determined by digital pH meter.



Fig.13 pH test

Irritability

A small amount of the makeup fixer spray was applied on the skin and kept it for few minutes and found to be non-irritated.



Fig.14 Irritancy test

Determination of homogeneity.

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

Spreadability

The spreadability is very important in the behavior of liquid that comes out from the spray bottle. It is used to identify the extend of spreadability by the liquid on the skin. A small quantity of sample was placed on a watch glass and another watch glass was placed above them; 100 g of weight was placed on the watch glass . The time taken for the liquid to spread on the watch glass was noted and measured which was found to be 4 cm in 60 sec. It was calculated by using following formula:

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

S= Spreadability m=Weight placed on slide

l=Lengthoftheglassslide

t=Timetakenin seconds

f. Physical Evaluation

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

Table: 5. Physical parameter

Sr. no.	Parameter	Formulation
1.	Color	Light red
2.	Odor	Pleasant
3.	State	Liquid

The physicochemical property of formulation such as color is light red, odor is pleasant, and state is liquid. The pH of formulation is (5.6) and wash ability is also good.

Stability

The prepared Makeup Remover Oil was subjected to stability studies by keeping it at various temperatures such as 40°C, 25°C and 37°C for 1 week. During this time, it showed no phase separation or change in color.

Irritancy

It was laid on the skin and allow to absorb. An hour was used for examining the skin for any symptoms of inflammation, redness, itching, or discomfort. For the marketed formulation, the identical method was done.

pH

The pH of makeup remover oil was found to be 5.17.

Spreadability test

Hair Dye base should spread easily without too much drag and should not produce greater friction in the rubbing process. Spreadability was calculated using the spreadability apparatus made of wooden board with scale and two glass slides having two pans on both sides mounted on a pulley.

Were

$$S = m \times l / t \quad S = 0.4086$$

RESULT AND DISCUSSION

The natural chosen for the preparation of herbal makeup remover oil are Strawberry, Castor oil, Almond oil, Olive oil, Aloe Vera. The choice of ingredients based on their individual properties Strawberry has makeup remover property, nourishing properties, Anti-inflammatory. Castor

oil has vitamin E, rich with antioxidant property these are helpful for makeup removing. Olive oil has a cleansing agent property. Almond oil has showed a glowing skin property and showing skin hydration properties also. In this study, the raw materials for the preparation of Makeup Remover Oil, plant parts and their extracts were subjected to preliminary physicochemical and phytochemical analysis which was found to be very promising. Various physical parameters were used for standardization viz. Irritancy, Stability, of homogeneity, pH etc were carried. It keeps hair soft and shiny. The main goal of present research was to formulate and evaluate Makeup Remover Oil which are prepared from herbal plant.

CONCLUSION

Removing makeup from the skin is very important for the care of the face. It must be as efficient as possible since fatty residues such as excess sebum, the remains of cosmetic product used daily and makeup products accumulate in the skin creases and on the surface of the skin, and they may block the pores of the skin and thus give rise to the appearance of spot. Poor makeup removing and cleansing quality, in particular poor rinsing, are often responsible, among other casual factors, for a poor complexion. And for long time remaining makeup on face is leading to penetrate skin and if not clean remain inside skin lead to produce pigmentation but with using make remover is preventing produce this pigmentation. Today however, consumers demand that makeup products have a longer and longer hold. Waterproof mascaras, long-lasting, no-transfer foundations, lipsticks that stay on all day, and, in order to remove these products, it is necessary to



use increasingly effective formulation, that make it possible to thoroughly cleanse the skin while respecting it, that is to say without attacking it.

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HOW TO CITE: Najeebullah , Shashank Tiwari , Harsh Rajpoot, Formulation And Evaluation Of Herbal Makeup Remover Oil, *Int. J. of Pharm. Sci.*, 2024, Vol 2, Issue 9, 295-306. <https://doi.org/10.5281/zenodo.13695536>

