

# Formulation & Evaluation of Herbal Lip Balm

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**Abstract:** The lip-care products for everyday basis contains harmful heavy metals and preservatives. Other than leaching through the pores on your lips, these heavy metals and other chemicals can also be accidentally ingested. Lip balm formulations are most widely used to enhance the beauty of lips and add glamour touch to the make-up. Lip balms offer a natural way to maintain and promote healthy lips. Current cosmetic lip products are based on use of enormous chemical ingredients which has a various side effects. Hence, an attempt has been made to study the natural ingredients which is used to formulate the natural lip balm. The natural lip balm can be made using naturally occurring base, oils, colour, flavouring agent etc. Organic lip balm nourishes the lips and helps to get hydrated and protect lips which were affected by the dryness. Organic lip balm can be a better option for treatment of various lip issues. Beetroot lip balm was found to possess the antioxidant activity.

**Keywords:** Beetroot, Organic lip balm, natural ingredients, antioxidants, hydrated, cosmetics, nourish, etc.

## I. INTRODUCTION

The major purpose is to keep the skin from drying out and to protect it from harmful environmental influences. Some lip balms, however, have negative side effects. Lip balms containing phenol, menthol, and other low-quality chemicals, for example, might be harmful to the lips. Lipsticks, lip balms, lip jellies, lip salves, lip gloss, and lip rouge are some of the cosmetic compositions used on the lips. These formulas give the lips a lovely colour and a glossy finish. Lip rouge is a lipstick substitute. In nature, they are almost semisolid or liquid. They can be made by mixing pigments with a base that contains the appropriate proportion of aqueous phase. This formulation is ideal for integrating pharmaceuticals encapsulated in nanosomes. This type of formulation's consistency makes it simple to apply with the help of a brush attached to the container's lid. It also aids in improving the active medicament's penetration through the lip membrane. The cosmetic formulation has a good aesthetic appeal and is simple to apply. The more precisely the active substance is applied to the affected location, the more successful the illness treatment becomes. When compared to the current formulation, the cosmetic formulation will be more patient-acceptable, which may improve patient compliance. The study's goal was to create a medicated lip rouge containing nanosomes of acyclovir to treat recurrent herpes labialis. This study was an attempt to design a formulation capable of delivering a higher concentration of the medicine in the dermal tissue for effective cold sore therapy.

Due to increasing public concern, on the presence of hazardous synthetic excipients in cosmetics, new techniques are being gained to produce products using organic sources. Chapped, dry or cracked lips are a very common beauty dilemma, particularly in harsh weather. Lips have no oil glands, so they really need that extra moisture and protection throughout the day. Many people deal with exsiccated lips during the winter, but the problem can continue in sunny seasons, too. Conventional lip balms often contain petrolatum,



Synthetic waxes, alumina, parabens, hydrogenated oils and artificial fragrances and colours which are toxic. Lip balms are often eaten away by the user and hence it is imperative that health regulators have a microscopic look at the



ingredients that go in to the lip balm. The dyes that contribute to the color of the lip balm are harmful to humans on consumption. Lips contain little melanin, which Provides some protection from the sun. herbal products like liquorice Rose oil ,vitamin E can help keep lips hydrated and

### **AIM & OBJECTIVE :**

**Aim :**

to provide a natural and effective solution for lip care, focusing on hydration, protection, and potentially addressing specific concerns like dryness, chapping, or minor infections.

**Objective :**

To enhance the appearance of lips by providing colour and texture, while also Potentially offering benefits like hydration, protection, and even some medicinal properties due to the natural ingredients.

### **Advantages of Lip Balm:**

Lip balms help to protect the natural health and beauty of the lips.

3. Sun block lip balms are proved to prevent ultraviolet rays from hurting the lips.
3. They are not gender specific products and both men and women can use them.
4. Lip balm products help to protect lips affected by cold sores, chapping and dryness.

### **Disadvantages of Lipbalm :**

1. Lip balms made of low-quality ingredients can harm the lips seriously. Such lip balms may dry out the lips instead moisturizing it.
2. Lip balm addiction is another disadvantage usually seen with the use of them.
3. Compared to commercially-prepared lip balms, homemade lip balms tend to stay on the lips for a shorter duration of time. Thus, need to reapply often.
4. Some companies manufacture lip balms considering only the beauty aspect, ignoring the health benefits and soft character of the skin. Such products will gradually damage the natural color, softness and glow of the lips.
5. The naturally derived colors and flavours are more difficult to obtain and also have issues related to stability in the products.

Cultivar Group: Conditiva Group.

Origin: Sea Beet ( Beta vulgaris subsp.)

Lips are a part of the human body that is very thin as compared to face skin, even though it consists of three to four layers of the skin.

Lips are susceptible where lips disorder such as inflammation and swelling of lips can quickly occur. Therefore, lips must bemoisturized using any lip product such as Lip balm.

Lip balms are formulations applied onto the lips to prevent drying and protect adverse environmental factors.

Products that are used to protect lips rather than decorate them are known as lip balms. They forman adherent, flexible , moisture resistant film of oily substance.

It is necessary to balance the concentration of main ingredients toformulate lip balms including the base, oils, colouring agents and flavouring agents.

Natural lip balms offers a natural way to maintain and promote healthy lips.



Dig.2 .Bees wax



Bees wax is a very moisturizing , can help protect the lips from the harmful rays of the sun, and has a pleasant smell. Bees wax acts as a natural emulsifier. Research has also discovered that bees wax contains small amount of natural anti-bacterial agents. This is especially helpful for individuals who have excessively dry and cracked lips. These anti-bacterial agents can help prevent apainful inflammation that comes with an infection. Beet Almond Oil :



**Fig.3. ALMOND OIL**

Almond oil penetrates deep into the skin tissues and its fatty acids help to moisturize the lips. The anti-inflammatory properties of almond oil reduces and pain associated with chapped and sun burnt lips. Aloe-vera has anti - inflammatory properties that fight irritation. It infuses the lips with anti-oxidants that fight wrinkles and other forms of skin damaged.

Vitamin E :



**Fig.4. VITAMIN E**

Vitamin E is an anti-oxidant and a natural conditioner. Vitamin E helps to maintain the soft, youthful texture of the lips by reducing the signs of aging. Topical vitamin E oil can be used to relieve chapped, dry lips. Since, vitamin E promotes cell turnover and regeneration, using it on dry lips brings new cells to the surface faster. The thick and oily consistency of vitamin E oil can also prevent further irritation. The colour of a product also provides an indication of product quality and freshness. Natural colours are however, less toxic compared to synthetic colour. The usage of synthetic dyes was done commercially for attractive colours but it is hazardous to skin and environment. Application of lip balm ensures quick healing of dry and chapped lips. The skin on your lips is thinner than your facial skin. The current research work aims to prepare and evaluate herbal lip balm by using easily available ingredients for the protection of lips. It will also add attractiveness and glossy appearance to lips. This work was intended for extensive study of natural lip balm. This was based on the comprehensive literature excipients along formulation and evaluation of lip balm.



## ROSE WATER



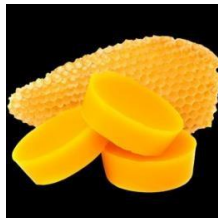
Helps balance and tone Oily skin.  
Soothe ooths and cools dry and Sensitive skin.  
Cleanses and purifies Normal skin.  
Tones and rejuvenates mature skin.  
Help reduce inflammation of skin with acne or eczema and heal better.

## GLYCERIN



### Benefits Of Glycerin

- Its also known as glycerol or glycerine,
- Vegetable glycerin is used in food, cosmetics, and pharmaceuticals.
- Benefits of using glycerine on lips
- Benefits Of Glycerin
- Hydrate The Outer Layer Of The Skin
- Relieve Dry Skin



### Synonymous

- yellow wax,
- Its also known as white wax.
- Geographical source
- It is produced in o France Italy West Africa India.
- Bees wax benefit
- Relaxer
- Stretch Mark Eliminator
- Pain Reliever & Anti-Inflammatory
- Liver Protector
- Skin Moisturizer.





#### BENEFITS OF ALMOND Oil

- Repairs Hair Damage
- Reduces Dark Circles
- Helps Moisturize
- Adds Bounce To Hair
- Reduce cholesterol

#### Uses

- It's used to the glowing skin. Used to the dry skin.
- It is used to the wrinkles.
- It's used to the hair foil

#### Material and Equipments: Materials:

Beetroot:-



Fig.2.1 Beetroot

#### HEALTH BENEFITS OF BEETROOT

- Conquers Heart Diseases
- Controls the Blood Pressure
- Beneficial for Bones & in Osteoporosis
- Great Ant-Cancer Diet Conquers Kidney Diseases.
- Enhances Wound Healing
- Lowers Cholesterol



Vitamin E is found in corn, nuts, olives, green, leafy vegetables, vegetable oils and wheat germ, but food alone cannot provide a beneficial amount of vitamin E, and supplements may be helpful

#### Benefit

- Moisturises your skin
- Can prevent UV damage to the skin
- Prevents free radical damage
- Soothes inflammation
- Treats hyperpigmentation
- Can help scar and wound healing
- Can help psoriasis and eczema sometimes



#### Rose water :

- Rose water is perfect for cleansing your skin and removing any impurities that could cause unwanted spots.
- \* Because of its gentle nature, it is suitable for people with any skin type - even sensitive skin.
- Using rose water for face and body cleansing will ensure your skin doesn't become dry and irritated. It helps fade dark spots and blemishes, leaving your skin looking more even and luminous.

Rose water is a natural toner that cleanses your pores

Waighing balance Ice bath

Water bath Beaker

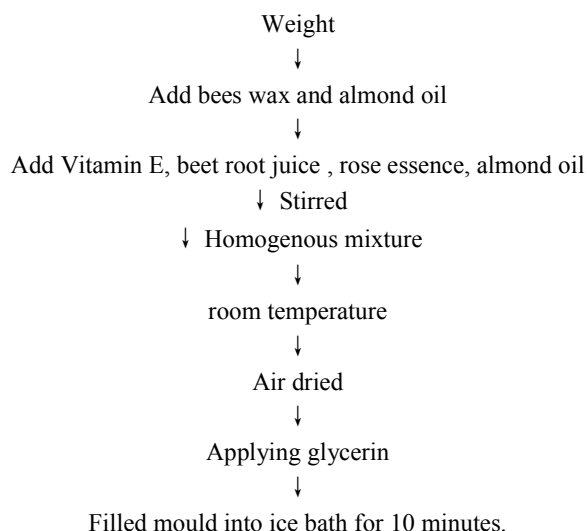
Formula:

Sr no.	Ingredients	Quantity Taken	Quantity Given	Use
1.	Beet root extraction	0.8 ml	0.6ml	Colouring Agent
2.	Bees wax	9.0 gm	5.0gm	Impart glossiness and hardness
3.	Almond oil	0.6ml	0.4ml	Moisturizing Agent
4.	Vitamin E	0.5ml	0.3ml	Anti-oxidant, Maintain the stability
5.	Rose water	Q.S	Q. S	Flavouring Agent
6.	Glycerol	Q. S	Q. S	Glossy Effect





#### FORMULATION:



#### FORMULATION OF HEARBAL LIP BALM :

Weigh all the excipients.

Add bees wax and almond oil in a beaker and melt it in water bath at 55-60°C

Add all other ingredients like vitamin E, beet root juice, rose essence, almond oil were mixed vigorously and add to the mixture and mixture was stirred continuously till homogenous mixture was obtained.

A mixture was poured into the container and it was let to be air dried at room temperature.

Before pouring the mixture in lip balm moulds, on the mould applying glycerine with the help of cotton, put the filled moulds into ice bath for 10 min. IMG. 1:



#### EVALUATION:

##### Melting Point-

The sample of lip balm is taken in a glass capillary whose one end was sealed by flame. The capillary containing drug was dipped in liquid paraffin inside the melting point apparatus. Melting was determined and melting point was reported. (17)

##### Organoleptic properties-

The formulation was studied for physical appearance, colour and odour.

The presence of coarse particles and consistency were used to evaluate the texture and homogeneity of the formulations. (15)



#### Measurement of pH-

The pH of lip balm was determined in order to investigate the possibility of any side effects. The pH study was carried out by dissolving 1gm of sample into 100 ml water.

The pH measurement was done using pH meter. pH of lip was near to neutral.

#### ☐ Skin Irritation test

It is carried out by applying lip balm on the skin for 10 min.

#### ☐ Test of spreadability-

The test of spreadability consisted of applying the product repeatedly onto a glass slide to visually observe the uniformity in the formation of the projective layer and whether the stick fragmented, deformed or broke during application.

Prepared lip balm, initially has shown Good uniform, no fragmentation, perfect application, with any deformation at room temperature.

#### ☐ Stability studies-

Prepared lip balm was placed for accelerated stability studies at room temperature (25.0 $\pm$  300C), refrigeration (4 $\pm$  2.00C) and oven temperature (40.0 $\pm$  2.00C) for 30 days.

After 30 days it was again characterized for organoleptic properties, melting point, spreadability and pH.

#### ☐ Effectiveness test on papers –

Finally, after taking out the lip balm from chiller, it was tested by applying the lip balm on a piece of paper.

This process is important to determine colour obtained from different sources. It also can determine the effectiveness of the colour product.

#### ☐ Skin Sensitivity-

It was carried out by applying the product in the form of a patch on the skin for 30 min and observe the reaction as - N - No reaction

R-Redness of the skin

Itching, swelling, inflammation

### **RESULT:**

#### ☐ Melting point :

Melting point of lip balm was found to be in the range of 680C-690C, which matches the appropriate melting point of between 650-750C.

#### ☐ Organoleptic Properties

Prepared lip balm has shown cream colour with pleasant odour. Its odour is the pleasant.

It's appearance of the excellent and smooth.

#### ☐ Test of Spreadability:

Prepared lip balm has initially shown Good uniform, no fragmentation, perfect application, without any deformation at room temperature.

#### ☐ Measurement of pH:

pH of lip balm was near to neutral pH i.e. 7.2, this would not cause any irritation to lips.





□ **Stability Studies:**

Stability of drug can be defined as the time from date of manufacture and the packaging of the formulation, until its chemical or biological activity is not less than a pre-determined level of labelled potency and its physical characteristics have not changed appreciably. The purpose of stability testing is to provide evidence on how the quality of a drug substance or drug product varies with time under the influence of variety of environmental factors such as temperature, humidity and light, enabling recommended storage condition and shelf-lives. Stability studies were carried out for 1 month/30 days at room temperature 25.0 $\pm$  3.00C, refrigeration 4 $\pm$  2.00C and oven temperature 40.0  $\pm$  2.00C.

It was observed that prepared lip balm shows I - Intermediate uniform; leaves few fragments; appropriate application; little deformation of the lip balm at room temperature 25.0 $\pm$  3.00 C and refrigeration 4 $\pm$  2.00 C and little deformation at oven temperature 40.0 $\pm$  2.00 C.

## II. CONCLUSION

The aim of current research work was to prepare lip balm by using maximum possible natural ingredients. Mainly beetroot extract chosen as a colouring agent, rose water used as a flavouring agent, vitamin E capsule used as an antioxidant, almond oil was used as moisturizing agent.

The effects of these ingredients on physicochemical properties such as organoleptic characteristics, melting point, consistency and spreadability on formulation were studied.

It can be concluded that lip balm formulation was successfully prepared by using these natural additives. Results of various tests implied that the formulation passed various tests physicochemical tests and safe to use.

Based on stability data, the storage condition for the formulation is at room temperature.

In the current formulation, Beeswax was used as a base, in the future; it can be replaced with a natural base like Sheabutter, paraffin wax, etc.

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