



## Review Article On Natural Lip Balm

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**1.Abstract:** Cosmetics are incredibly in demand since historical time. These days focus shifted more towards naturally derived cosmetic products. Among all cosmetic products, lip balm formulations are most widely used to enhance the beauty of lips and add glamour touch to the makeup. Lip balms offer a natural way to maintain and promote healthy lips. Current cosmetic lip products are based on use of enormous chemical ingredients with various side effects. Hence in this work, an attempt has made to study natural ingredients used to formulate natural lip balm. This article reviews on the essential ingredients used for natural lip balm along with their merits and limitations. The natural lip balm can made using naturally occurring base, oils, extract, colour and flavouring agents which can be evaluated for their resistance to temperature variations, pleasant flavour, and smoothness during application, adherence and easy intentional removal, etc.

**Key words:** natural lip balm; herbal cosmetics; natural ingredients

### 2. Introduction

Cosmetic plays a significant role in today's life style. Moreover, current trend is going green in almost all industries including cosmetics to adopt more natural way of life. The preferable choices are natural food, herbal medicines and natural curing practices for healthy life and also there is much demand for the organic vegetable products .

Many of them have pharmacological properties such as antimicrobial, antiinflammatory and cytostatic effects. They have been recognized as useful for human medicine. Herbal extracts are cultivated all over the world and is prime name in horticulture sector. Cosmetics made up of herbal extracts for skin care and hair-care are very popular for their reliability.

Herbal cosmetic products include various formulations. The word herbal indicates safety as compared to synthetic products which are having various adverse effects on human health . Colouring lips is the ancient practice to enhance the beauty of lips and to give glamour touch to the face make up. For this the choice for shades of colour, textures, lustres have been changed and became wider. This can be observed from the lip jelly, lip balm, lipstick marketed in hundreds of sheds of colours to satisfy the demand .

This was based on the comprehensive literature search of natural lip balm, significance of natural excipients along formulation and evaluation of lip balm. These products are evaluated for organoleptic properties like colour, odour, spread ability, pH, melting point, skin irritation and product consistency . The colour of a

product also provides an indication of product quality and freshness. Natural colours are however, less toxic compared to synthetic colours .

### 3. Difference between regular and lip skin

The lips are more attractive than the regular skin.

Generally the top corneum layer of regular skin has 15 to 16 layers mainly for protection purpose.

The top corneum layer of the lip contains about only 3 to 4 layers and very thin compared to typical face skin.

The lip skin contains very few melanin cells. Because of this, the blood vessels more clearly appear through the skin of the lips that gives a lovely pinkish color of the lips.

The lip skin has no hair follicle and no sweat glands. Therefore it does not have the sweat and body oil in protecting the lip from outside environment

**Fig 1. Difference between regular and lip skin**



### 4.Types of lip balm

There are 7 kinds of lip balms to choose from

#### 1.Tinted Lip Balm

A type of lip balm used to hydrate and colorize the lips called tinted. If the user doesn't want to wear a heavy coat of lipstick, tinted lip balms are a perfect alternative. Users use tinted lip balm to moisturize their lips as well as to give them a brilliant wash of color. Just apply the colored lip balm directly to the lips to use it.

#### 2.Medicated lip balm

Medicated lip balms are most likely to be the least soothing and irritating lip balms amongst the others. This lip balm is usually prescribed by dermatologists in medication for chapped lips and other conditions regarding the

#### 3.Flavoured lip balm

The flavoured lip balm is a kind of lip balm which has flavourings. Flavoured lip balms are lip balms that are added with flavour such as vanilla, mint, mango and many more fruity flavours. This lip balm is made for moisturizing and is also added with special flavours in order to entice the taste buds and smell of the users.

#### 4.Organic lip balm

The organic lip balm is a kind of lip balm which have organic or natural ingredients. While there are other lip balms which has chemical ingredients that may harm the lips and skin, the organic lip balm is usually made from organic ingredients such as avocado oils, jojoba oils, beeswax, vitamin E, hemp, and cocoa butter. The organic lip balm still functions like any other lip balms, which provides moisture and protection from dry and chapped

#### 5.SPF lip balm

The SPF lip balm are a kind of lip balm which contains ingredients that protect the lips from the harmful effects of the Sun rays. The SPF lip balm functions like a sunscreen to protect the lips from sun damage, burning, and even skin cancer. If the user is skin conscious and is avoiding the harmful effects of the sun, then this lip balm is t

#### 6.Plumping lip balm

The plumping lip balm is a kind of lip balm that doesn't just moisturize the lips, but also makes the lips look more rounder. Plumping lip balms is made to give protection to the lips, but at the same time it has special ingredients to make the lips look fuller. The plumping lip balm is essential to users who want to achieve a plumper lip without doing any surgical procedures.

#### 7.CBD or Hemp oil lip balm

Cannabidiol (CBD) or hemp oil lip balm are a kind of lip balm that contains CBD oil or hemp oil. Hemp oil is from the hemp plant which is an excellent moisturizer for the lips, while the CBD oil is an active compound of cannabinoids which has anti-inflammatory benefits. The lip balm will act as an anti-oxidant to the lips to help sooth dry and heal chapped lip

#### 5 . Lip disorders

- 1. Swelling:** An allergic reaction can make the lips swell. The reaction may be caused by sensitivity to certain foods or beverages, drugs, lipstick, or airborne irritants. When a cause can be identified and then eliminated, the lips usually return to normal. But frequently, the cause of the swelling remains a mystery. A condition called hereditary angioedema may cause recurring bouts of swelling. Nonhereditary conditions such as erythema multiforme, sunburn, cold and dry weather, or trauma may also cause the lips to swell.
- 2. Sun damage :** Sun damage may make the lips, especially the lower lip, hard and dry. Red speckles or a white filmy look signal damage that increases the chance of subsequent cancer. This type of damage can be reduced by covering the lips with a lip balm containing sunscreen .
- 3. Inflammation:** With inflammation of the lips (cheilitis), the corners of the mouth may become painful, irritated, red, cracked, and scaly. Cheilitis may result from a deficiency of vitamin B2 in the diet.
- 4. Discoloration:** Freckles and irregularly shaped brownish areas (melanotic macules) are common around the lips and may last for many years. These marks are not cause for concern.
- 5. Sores :** A raised area or a sore with hard edges on the lip may be a form of skin cancer. Other sores may develop as symptoms of other medical conditions, such as oral herpes simplex virus infection or syphilis. Still others, such as keratoacanthoma, have no known cause.

#### 6.Application of lip balm

Lip balms are formulations applied onto the lips to prevent **drying** and **protect against adverse environmental factors**. Numerous lip balms of chemical origin are currently available in the market from companies like The body shop, Nivea, Himalaya, Blistex, etc.

It include organoleptic and stability requirements such as resistance to temperature variations, pleasant taste, innocuousness, smoothness during application, adherence and easy intentional removal .

Lip balm should not be considered equivalent to the lip gloss, with the former being a product intended for use by both men and women .

To formulate lip balms, it is necessary to balance the concentration of the main ingredients including butters, oils and waxes and other excipients . Many people seek weekly facials, daily skin scrubs, anti-aging lotions, and many other products to ensure they have healthy and glowing skin. But with all the attention being given to healthy skin, lip care is largely forgotten. Natural lip balms offer a natural way to maintain and promote healthy lips.

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 dangerous to humans on consumption.

## **7. Advantages and Disadvantage of Natural Lip Balm**

### **7.1 Advantages of natural lip balm**

- a. Lip balms help to protect the natural health and beauty of the lips.
- b. Sun block lip balms are proved to prevent ultraviolet rays from hurting the lips.
- c. They are not gender specific products and both men and women can use them.
- d. Lip balm products help to protect lips affected by cold sores, chapping and dryness
- e. Contact of the product with the skin will not cause a sensation of friction or dryness, and should allow the forming of a homogeneous layer over the lips in order to protect the labial mucous susceptible to environmental factors such as UV radiation, dryness and pollution.
- f. It refreshed, renewed and also addresses lip-related symptoms resulting from colds, flu and allergies.
- g. The use of natural lip cosmetic to treat the appearance of the face and condition of the skin

### **7.2 Disadvantages of lip balm**

- a) Lip balms made of low quality ingredients can harm the lips seriously. Such lip balms may dry out the lips instead moisturizing it.
- b) Lip balm addiction is another disadvantage usually seen with the use of them.
- c) 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.
- d) 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.
- e) The naturally derived colors and flavours are more difficult to obtain and also have issues related to stability in the products
- f) Natural oils have other disadvantages such as greasier, comedogenic, and less spreadability.

## 8. Common ingredients used in Natural Lip Balm formulation

The list of materials used as key formulation ingredients for natural lip balm given in the table no.1 as described below

**Table No.1** List of Natural Ingredients

| Base                | Oils           | Coloring Agent | Flavouring Agent |
|---------------------|----------------|----------------|------------------|
| Cocca butter        | Coconut oil    | Beet root      | Strawberry       |
| Bees Wax            | Olive oil      | Pomegranate    | Honey            |
| Shea Wax            | Almond Oil     | Marigold       | Orange           |
| Shea butter         | Vitamin E oil  | Tomato         | Saffron/Kesar    |
| White bees wax      | Peanut Oil     | Jabul          | Raspberry        |
| Yellow bees wax     | Tea tree oil   | Watermelon     | Vanilla          |
| Carnauba wax        | Glycerin       | Honey          | Mango            |
| Candelilla wax      | Castor oil     | Saffron        | Rose oil         |
| Mango butter        | Jojoba oil     | Turmeric       | Sandalwood       |
| Avocado butter      | Corn oil       | Capsicum       | Jasmine          |
| Olive wax           | Arachis oil    | Cherry         | Cherry           |
| Jojoba wax          | Lemon oil      | Orange         | Apple            |
| Olive butter        | Avocado oil    | Strawberry     | Lemon            |
| Sweet Almond butter | Sesame oil     | Mango          | Apricot          |
| Sweet almond wax    | Sunflower oil  | Carrot         | Rosemary         |
| Raspberry butter    | Grape seed oil | Lemon          | Pineapple        |

### 1. Base

Waxes form an important group of ingredients for the manufacture of personal care products and decorative cosmetics. Waxes are used in different industries and products. They are predominately used in candles, but also find important applications in food, cosmetics and pharmaceutical industries as thickeners/emulsifiers.

Chemically, waxes are complex mixtures of hydrocarbons and fatty acids combined with esters. Waxes are harder, less greasy and more brittle than fats. They are very resistant to moisture, oxidization and bacteria. There are four categories of waxes as:

- (a) Animal Waxes: Beeswax, lanolin, spermaceti;
- (b) Plant Waxes: Carnauba, candelilla, jojoba;
- (c) Mineral Waxes: Ozokerite, paraffin, microcrystalline, ceresin;
- (d) Synthetic Waxes: Polyethylene, carbowax, acrawax, stearon. The most widely used waxes for cosmetic products are beeswax, carnauba and candelilla wax.

Waxes are esters of a fatty acid and a fatty alcohol. Jojoba oil is therefore a wax, not oil. Physically, waxes are characterized by a high melting point (50-100°C). The most used wax is beeswax which is a good emollient and thickener.

Two other natural waxes often used in cosmetics are carnauba and candelilla wax. Both are harder and have a higher melting point making them more stable and suitable for dry products e.g. lip balm



Fig. (2) Base

## 2. Oils

Oils and fats are differing in their physical forms; generally the latter are solid at room temperature. Both fats and oils are chemically glycerol esters composed of glycerol and fatty acids and are also called as triglycerides.

Fatty acids can be saturated or unsaturated, thereby determining the stability and property of the oil. Oils with a high degree of saturated fatty acids (lauric, myristic, palmitic and stearic acids) include coconut oil, cottonseed oil, and palm oil. Oils with a high degree of unsaturated fatty acids (oleic, arachidonic, linoleic acid) are canola oil, olive oil, corn oil, almond oil, safflower oil, castor oil and avocado oil.

Saturated oils are more stable and do not become rancid as quickly as unsaturated oils. However, unsaturated oils are smoother, more precious, less greasy, and better absorbed by the skin. Natural butters like shea butter, avocado butter or cocoa butter are not true butters but natural fats. In general, natural butters are excellent emollients and thickeners and dependent on the type may have various additional properties (e.g. antioxidant & and soothing properties in shea and avocado butter due to phenolic compounds) .

The oil mixture is required to blend properly with the waxes to provide a suitable film on the applied lip skin. An ideal mixture is one which enables the product to spread easily and produces a thin film with good covering power . Sunflower or olive oil, both oils will give a great gloss to lips .

Castor oil is used in many lip balm because of its good qualities, though now days some other oils or solvents are being used. A refined grade castor oil is of good color and is odorless and tasteless.

Castor oil is a very good plasticizing agent. An antioxidant is to be added to the castor oil against rancidification though it is not as prone to rancidification as other vegetable oils like olive oil or almond oil .

Jobba oil is known for its skin-softening properties which can prevent lips from dehydrating. While wolfberry seed oil is renowned for its moisturizing and skin conditioning properties.

Rosehip oil is excellent for maintaining then natural moisture balance in skin. Vitamin E is a well-known antioxidant that plays an essential role in the lip balm base. Peppermint essential oil energizes and revitalizes skin. Cinnamon essential oil is an excellent antioxidant.

Lavender essential oil is soothing and nourishing to skin. And grapefruit essential oil is light and refreshing for dry lips . Almond oil is pale yellow oil with slight characteristic odour. It consists of glycerides chiefly of oleic acid with smaller amounts of other acids namely, linoleic, myristic and palmitic. It has emollient properties.



Fig. (3) Oils

**3. Coloring Agent** Colorants or coloring agents are mainly used to impart a distinctive appearance to the Cosmetic products . Color has been used in cosmetics since early times. Basically, a desire to buy a cosmetic product is controlled by three senses namely sight, touch and smell. As such as, color is an important ingredient of cosmetic formulations . The color is imparted to the lips in two ways;

- (a) By staining the skin with a solution of dyestuff which can penetrate the outer layer of the lip skin,
- (b) By covering the lips with a colored layer which serves to hide any skin roughness and give a smooth appearance.

Colorants should not be affected by oxidizing or reducing agents and pH changes and also should not interfere with the tests and assays. Water soluble colorants are equally desirable with oil-soluble and spirit-soluble colors. The most important characteristic of colorants is compatibility with other ingredients and medicament.

The examples of natural colorants are obtained from beet root, saffron, turmeric, etc.



Fig. (4) Coloring Agent

#### 4. Flavouring Agent

Flavours or flavouring agent are usually required to mask the four basic taste sensations.

Flavour refers to a mixed sensation of taste, touch, smell, sight and sound, all of which involve a combination of physiochemical and physiological actions that influence the perception of substances.

With the expansion of technology in the flavour industry, many artificial or imitation flavours have been created. The creation of an acceptable flavour is more of an art than a science .

Flavourants are selected on the basis of the taste of the drug or other ingredients need to be incorporated.

## 9.Method of Lip Balm Preparation

The details of general method of lip balm preparation are described in this section. Select appropriate ingredients for lip balm formulation from Table number 1.

Initially melt the accurately weighed amount of waxes in hot water bath in descending order of their melting point with continuous stirring/heated till it melts completely .

Then coloring agent dissolved in oil or water depends on solubility and add to the mixture of melted waxes.

Finally add flavouring agent like honey, vanilla which are also act as a preservative and continuously stirred to get a homogenized mixture.

The mixture should be stirred vigorously until a smooth emulsion form.

Then, this mixture could be poured into clean and lubricated moulds and allow them to cool to achieve contraction of the waxes to facilitate easy removal of the balm .

Recently the work also patented on the preparation of botanical butter stick lip balm cosmetics

## 10.Instruments and equipments used in lip balm preparation

1. Scales : for measuring ingredients .



Fig. (5) Scales

2.Glass or stainless steel bowls : for mixing ingredients.



Fig. (6) Glass Bowl

**3. Water bath :** for heating ingredients



Fig. (7) Water Bath

**4. Spatulas, Spoons, or pipette :** for mixing ingredients.



Fig. (8) Spatulas, Spoons, or pipette

**5. Protective gloves**

**6. Lip balm containers:** such as tubes or pots.



Fig. (9) Lip balm containers

**7.Measuring cups:** for measuring ingredients



Fig. (10) Measuring cups

**8.Melting pots:** for melting ingredients.



Fig. (11) Melting Pots

**9.microwave:** For melting ingredients if you don't have melting pot.



Fig. (12) Microwave

## 11. Evaluation Of lip balm

### 1. Melting Point:

For melting point, the sample of lip balm was 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 which was equipped with magnetic stirring facility. Melting was determined visually, and melting point was reported.

### 2. Organoleptic properties :

The lip balm was studied for the basic organoleptic characters such as colour, odour, taste and appearance.

### 3. Test of spreadability:

The product was applied (at room temperature) repeatedly onto a glass slide to visually observe the uniformity in the formation of the protective layer and whether the stick fragmented, deformed or broke during application.

**G** - Good: uniform, no fragmentation; perfect application, without deformation of the lip balm.

**I** - Intermediate: uniform; leaves few fragments; appropriate application; little deformation of the lip balm.

**B** - Bad: not uniform; leaves many fragments; difficult or inappropriate application, intense deformation of the lip balm.

### 4. pH measurement:

The pH study was carried out by dissolving 1 gm of sample into 100 ml water. The pH measurement was done using pH paper.

### 5. Stability studies:

Prepared lip balm was placed for accelerated stability studies at room temperature ( $25.0 \pm 3.0^\circ\text{C}$ ), refrigeration ( $4 \pm 2.0^\circ\text{C}$ ) and oven temperature ( $40.0 \pm 2.0^\circ\text{C}$ ) for 30 days. After 30 days, it was again characterized for organoleptic properties, melting point, spreadability and pH.C

## 12. Conclusion:

From present investigation it is concluded that natural ingredients like turmeric, Aloe, Honey and cow ghee are useful in different lip problem .

It should be gives better curative effects on various lip diseases like Dryness, Cracking, Swelling, Sores .Also this natural ingredients do not show any side effects on lip hence herbal lip balm is better option for treatment of different lip problems. Future research should explore long term effects , innovative ingredients, and environmental impact.

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