ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 11| Issue: 6| June 2025|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2025: 8.691 || ISI Value: 1.188

PREPARATION AND EVALUATION OF NATURAL HERBAL LIP BALM

Mr. Rushikesh Laxman Cheke, Mr. Pramod Mapari, Dr.Swati Rawat, Dr. Sunil S. Jaybhaye , Mr.Shubham Doifode

ABSTRACT

Cosmetics are products used to improve or change the appearance of the human body. Many lip products available today contain harmful chemicals that may cause side effects. Because of this, there is a growing demand for natural, herbal cosmetics. In this study, a natural herbal lip balm was made using papaya extract as the main ingredient, along with beeswax, coconut oil, almond oil, rose water, and vitamin E.

The pH of the lip balm was found to be 7.5, and the melting point was between 60°C and 61°C.The lip balm was' tested under different storage conditions: Room temperature (27°C ±3°C)Refrigerated temperature (5°C ± 2°C)High temperature (42°C ± 2°C).

The results showed that the lip balm remained stable, smooth, and did not change shape under room and refrigerated conditions .It was also checked for: Color and appearance Smell (odour),pH level, Skin patch test, Spreadability, Stability, Melting point The results confirmed that the lip balm is safe, effective, and good for use.

KEYWORDS: *Papaya Extract, Coconut Oil, Almond Oil, Beeswax, Vitamin E, Rose Water.*

INTRODUCTION

Lip balm is a product used to protect and moisturize the lips, especially in dry or cold weather. Many commercial lip balms contain chemicals that may cause side effects long-term use.

As people become more aware of the harmful effects of synthetic products, there is growing interest in natural and herbal alternatives. Herbal lip balms are made using ingredients that are safe, gentle, and beneficial for the skin. These natural ingredients help to heal cracked lips, retain moisture, and give a smooth texture. Cosmetics play a significant role in today's lifestyle. The trend across various industries, including cosmetics, is shifting towards natural and sustainable practices.

Consumers increasingly prefer ingredients derived from natural foods, herbal medicines, and traditional healing methods, reflecting a broader demand for organic vegetable products. Among the widely used cosmetic items are lip care products

Herbal extract-based cosmetics are highly regarded for their effectiveness and reliability. For instance, papaya is valued for its anti-inflammatory enzymes that promote healing and its rich content of Vitamin C, a powerful antioxidant.

Lip inflammation, characterized by broken, chapped, and painful corners of the mouth, necessitates the use of moisturizers to alleviate discomfort. Dry, cracked lips are a common issue, particularly in harsh weather conditions.

While this problem is most prevalent in winter, it can persist throughout the summer as well. Certain ingredients, like menthol, camphor, and peppermint oil, can exacerbate dryness over time.

Types of Lip Balm

A. Tinted Lip Balm

Tinted lip balm not only moisturizes but also adds color to the lips. It is a great alternative for those who prefer a lighter application compared to lipstick. This balm provides hydration and a subtle, luminous color to the lips.

B. Plumping Lip Balm

Plumping lip balm goes beyond moisturizing by making the lips appear fuller. These balms contain special ingredients designed to enhance the lips' volume while also providing protection and hydration.

C. Medicated Lip Balm

Medicated lip balm is typically prescribed by doctors for treating chapped lips and other lip conditions. Although these balms are less soothing and can be irritating, they are effective for medical use as recommended by dermatologists.

D. Flavored Lip Balm

Flavored lip balm includes various flavorings such as vanilla, mint, mango, and other fruity tastes. These balms are designed to moisturize the lips while offering appealing scents and flavors to enhance the user experience

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 11| Issue: 6| June 2025|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2025: 8.691 || ISI Value: 1.188

E. Organic Lip Balm

Organic lip balm is made from natural or organic ingredients like avocado oil, jojoba oil, beeswax, vitamin E, hemp, and cocoa butter. Unlike other lip balms with chemical ingredients that may harm the lips, organic lip balms provide moisture and protection in a natural way.

LIP BALM

Lip balm is a waxy substance applied to the lips to keep them moist. Lip Balm was created to protect the lips from external influences such as the cold of winter and prevent dry, chapped lips.

° Protecting the lips Helps prevent irritation and infection.
° Lip Balm Prevents saliva from wetting the skin repeatedly.
° It also reduces the pain associated with chapped lips.
° The ingredients used to prepare the lip balm maintain the moisture of the lips and promote the .
healing of chapped lips.

History of Lip Balm

The use of natural ingredients to protect and care for the lips dates back thousands of years. In ancient civilizations, people used oils, waxes, and plant extracts to keep their lips soft and prevent dryness.

1) Ancient Egypt:
Egyptians were among the first to use natural lip care products. They applied beeswax, olive oil, and crushed plants to protect their lips from the harsh desert climate.
2) Native American Tribes:
They used natural ingredients like animal fats, beeswax, and plant oils to moisturize and heal their lips.
3) Traditional Indian Medicine (Ayurveda):
Herbal mixtures made from ghee (clarified butter), honey, rose petals, and herbal oils were used to treat dry or cracked lips.
4) Modern Times:
The first commercial lip balm was introduced in the 1880s, but natural lip balms became popular again in recent years due to concerns about chemical ingredients.
Today, many people prefer herbal lip balms made with beeswax, coconut oil, essential oils, and plant extract

APPLICATION OF LIP BALM

Lip balms are formulations applied onto the lips to prevent drying and protect against adverse environmental factors.
I or Numerous lip balms of chemical origin are currently available in the market from companies like The body shop, The Nivea, Himalaya, Blist ex, etc. The cosmetic literature reports limited data on this type of formulation, although references related to lipstick apply because it is a cosmetic form similar to lip balm.

This similarity extends to 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

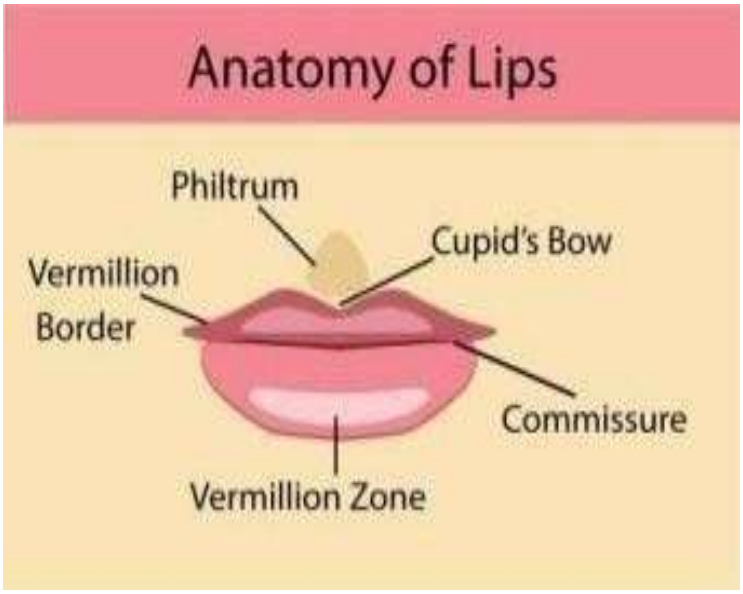
PROBLEMS RELATED LIPS

Several conditions can affect the lips, including:

- **Cheilitis:** Inflammation, allergies, or irritants causing dry, cracked, and possibly swollen and painful lips.
- **Dry Lips:** Loss of moisture due to environmental factors like cold temperatures, dry air, or frequent lip-licking, leading to tight, cracked, or peeling lips.
- **Chapped Lips:** Severe dryness resulting in painful, bleeding, and uncomfortable lips, often due to prolonged dryness, sun, wind, or harsh weather.
- **Fever Blisters (Cold Sores):** Painful, fluid-filled blisters caused by the herpes simplex virus, often flaring up During stress or illness,
- **Angular Cheilitis:** Inflammation and cracking at the corners of the mouth, possibly due to infections, poor nutrition, or prolonged moisture exposure.
- **Lip Infections:** Bacterial, viral, or fungal infections causing swelling, redness, pain, and pus-filled blisters or sures
- **Allergic Reactions:** Swelling, itching, redness, and blistering due to allergic reactions to certain foods, cosmetics, Or lip care products.
- **Lip Discoloration:** Changes in lip color due to sun exposure, smoking, medications, or underlying health conditions

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 11| Issue: 6| June 2025|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2025: 8.691 || ISI Value: 1.188

- **Anatomy of the Lips :**The anatomy of the lips includes various structures that contribute to their function and appearance:



- **Skin:** The outer layer of the lips is made of skin, which is thinner and more sensitive than the skin on other parts of the body.
- **Vermilion Border:** This is the distinct margin that separates the red-colored vermilion area of the lips from the surrounding skin.
- **Vermilion Zone:** The red area of the lips, which has a high concentration of blood vessels, giving it its color.
- **Philtrum:** The vertical groove or indentation in the center of the upper lip.
- **Cupid's Bow:** The V-shaped area in the center of the upper lip's double curve.
- **Oral Mucosa:** A thin, moist tissue layer covering the inner surface of the lips, helping to keep them moist.
- **Muscles:** The orbicularis or is muscle surrounds the mouth and aids in movements like smiling and puckering.
- **Nerve Endings:** The lips have a high density of nerve endings, making them very sensitive to touch, temperature, and pain.

Aim

To prepare and evaluate a natural herbal lip balm using plant-based ingredients with the objective of promoting lip care through a chemical-free, safe, and effective formulation.

Objectives

1. **Formulation Development**
   To select suitable herbal ingredients (e.g., beeswax, coconut oil, essential oils, and herbal extracts) based on their known skin-healing and moisturizing properties. To formulate a stable lip balm using natural and non-toxic ingredients.
2. **Evaluation of Physical Properties**
   To assess organoleptic properties such as color, texture, fragrance, and appearance. To determine consistency, spreadability, and pH of the lip balm.
3. **Stability Testing**
   To evaluate the stability of the lip balm under different temperature and storage conditions.
4. **Therapeutic Efficacy**
   To evaluate the healing, moisturizing, and protective effects of the lip balm on dry or chapped lips.
5. **Microbial Testing**
   To ensure the formulation is free from microbial contamination.
6. **Consumer Acceptability**
   To conduct a user feedback study or survey to assess consumer satisfaction regarding the product's effectiveness, safety, and sensory attributes.

LITERATURE REVIEW

1. Several natural substances are commonly used in lip balm formulations. Beeswax acts as a base and emollient that forms a protective barrier on the lips. Shea butter, cocoa butter, and coconut oil are rich in fatty acids and provide deep moisturization. Essential oils like peppermint and lavender not only provide aroma but also have antibacterial and soothing properties (Kumar et al., 2017).

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 11| Issue: 6| June 2025|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2025: 8.691 || ISI Value: 1.188

2. Many herbs have healing, anti-inflammatory, and antioxidant properties. Aloe vera, calendula, turmeric, and neem extracts are widely studied for their wound-healing and antimicrobial effects. These herbs help in treating dry, chapped, or infected lips naturally (Sharma & Joshi, 2018).
3. A shift towards herbal and green cosmetics has been observed due to concerns about synthetic ingredients causing allergies, irritation, or long-term side effects. Studies show consumers prefer lip care products that are paraben-free, non-toxic, and enriched with natural oils and herbs (Patel et al., 2019).
4. The evaluation of lip balm includes checking physical parameters like color, texture, spreadability, and pH. In vitro and in vivo studies are often conducted to test stability, moisturizing capacity, and user acceptability. Microbial testing ensures the safety of the product during storage (Rajput et al., 2020).

PLAN OF WORK

- Review Of Literature
- Selection Of Ingredients Used In lip balm
- Functions And Uses Of The Ingredients Used In The Preparation
- Procedure Of Making lip balm
- Evaluation lip balm

MATERIAL AND METHOD

APPARATUS USED:

1. Measuring cylinder
2. Spatula
3. Water bath
4. China disc
5. Glass rod

Here is a simple and clear version of the method and preparation of a natural herbal lip balm using ingredients like beeswax, papaya extract, coconut oil, almond oil, rose water, and vitamin E.

INGREDIENT

SR.NO	INGREDIENT	QUANTITY	USES
1.	Beeswax	3gm	Impart Glossiness and hardness
2.	Papaya extract	3ml	Colouring Agent
3.	Coconut oil	2ml	Moisturizes and soothes dry lips.
4.	Almond oil	2ml	Moisturizing agent
5.	Rose water	1ml	Flavouring agent
6.	Vitamin e (capsule)	1ml	Antioxidant, maintain the stability

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 11| Issue: 6| June 2025|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2025: 8.691 || ISI Value: 1.188

PROCEDURE

- **Melt the Beeswax**
  Take beeswax in a steel bowl or double boiler. Heat gently until it melts completely.
  Add Oils
  Add coconut oil and almond oil to the melted beeswax. Stir well to mix the oils with the beeswax.
  Add Papaya Extract
  Add papaya extract to the mixture. Stir continuously to blend it properly.
- **Add Vitamin E and Rose Water**
  Turn off the heat.
  Add the contents of one vitamin E capsule.
  Add a few drops of rose water. Mix everything well.
- **Pour into Containers**
  While the mixture is still warm and liquid, pour it into small lip balm containers or jars. Allow it to cool and harden at room temperature.
- **Store Properly**
  Keep the lip balm in a cool, dry place away from sunlight.

Storage And Precautions

- Store in a cool and dry place
- Away from direct heat.

INGREDIENTS



coconut oil



Beeswax



Papaya extract

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 11| Issue: 6| June 2025|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2025: 8.691 || ISI Value: 1.188



Rose water



Almond oil



Vitamin e (Capsule)



ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 11| Issue: 6| June 2025|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2025: 8.691 || ISI Value: 1.188

PREPARED LIP BALM

USES OF LIP BALM

1. Moisturizing Lips: Prevents and treats dry, chapped, or cracked lips by providing hydration.
2. Protecting Against the Elements: Shields lips from harsh weather, such as wind, cold, and sun (especially those with SPF).
3. Healing: Some balms contain ingredients like aloe vera, vitamin E, or lanolin to help repair damaged skin.
4. Improving Lip Appearance: Enhances lip smoothness and may add a subtle shine or tint.
5. Prepping Lips for Makeup: Creates a smooth base for lipsticks or lip glosses, making application easier.
6. Preventing Cold Sores: Certain medicated balms contain ingredients like docosanol or camphor to reduce outbreaks.
7. Soothing Irritation: Provides comfort to lips irritated from biting, sunburn, or dehydration.

ADVANTAGES OF LIP BALM

1. Safe for lips – Made from natural ingredients, so it's gentle and less likely to cause irritation.
2. No harmful chemicals – Free from synthetic colors, preservatives, and fragrances.
3. Moisturizes well – Natural oils and butters keep lips soft and smooth.
4. Smells natural – Uses essential oils for a light, pleasant scent.
5. Good for sensitive skin – Better choice for people with allergies or skin problems.
6. Customizable – You can make your own with your favorite herbs and oils.

DISADVANTAGES OF LIP BALM

1. Short shelf life – It can go bad quickly because it doesn't have strong preservatives.
2. Can melt easily – In hot weather, it may become too soft or melt.
3. No sun protection – Most natural lip balms don't protect your lips from the sun.
4. Might cause allergies – Some natural ingredients (like essential oils) can cause skin reactions in sensitive people.
5. More expensive – Good quality natural ingredients can cost more than regular lip balms.

EVALUATION AND RESULT: EVALUATION

- Appearance: Smooth and even texture with a pleasant smell.
- Spreadability: Should apply easily on lips.
- Stability: Should not melt or change color at room temperature.
- Moisturizing effect: Try on lips and see how long the softness lasts.
- pH test: Should be near neutral (around pH 6-7) – safe for lips.

RESULT

EVALUATION	OBSERVED VALUE
Colour	White Yellow
Odour	Pleasant
Melting Point	60°C
Spreadability Test	Good
Stability Test	Good
Skin Irritancy Test	No Irritation
pH	6 To7

CONCLUSION

This research aimed to create a lip balm using herbal and natural ingredients. The formulation was developed and assessed for its organoleptic properties, as well as other parameters such as pH, spreadability, and melting point. Stability testing indicated that the formulations are safe for use. According to the stability data, the recommended storage temperature for the formulation is between 25°C and 35°C, with a neutral pH of 7 to 7.5. The melting point of the lip balm was found to be 60°C.

REFERENCE

1. *Shaikh MA, Pathan UA, Path! G. Design and evaluation of herbal lip balm by using beet root. Int | Innov Sei Technol.2023:8(5):2210-2.*
2. *Kadu M, Vishwasran S, Singh S. Review on natural lip balm. International Journal of Research in CosmeticScience, 2015,5(1):1-7. .*
3. *V.P. Kapoor, Herbal cosmetics for skin and hair care, Natural Product Radiance. 4 (2005) 306- 314*
4. *Jadhav, A.V., Godse, K.C., Deshmarte, P.P., "Formulation and Evaluation of Organic Lip Balm, Indo AmericanJournal of Pharmaceutical Research, 2019. ISSN NO: 2231-6876.*
5. *Balm GT. Soothing Calendula Lip Balm RecipeNmom, F.W., Ajuru, M.G., et al., "Pharmacognostic Relevance of Calendula Officinalis Based Organic Lip Balm in Managing Human Lip Infection", International Journal of Academic And Applied Research, 2020; 4(12): ISSN NO: 2643-9603,*
6. *B. J.Kukreja, V. Dodavad, Herbal mouthwashes-A gift of nature, International Journal of Pharma and Bio Sciences,2012 Apr,3(2):46-52.*
7. *Kole PL., Jadhar HR, Thakurdesai P, Nagappa AN. Cosmetic potential of herbal extracts.*
8. *Pradhan KN, Dus S, Lakshmi CS, Cosmeceutical lip balm, harnessing the power of herbal ingredients.*
9. *P. L. Kole, H. R. Jadhav, P. Thakurdesai, A. N. Nagappa, Cosmetic products of herbal extracts, Natural Product Radiance. 4 (2005)*

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 11| Issue: 6| June 2025|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2025: 8.691 || ISI Value: 1.188

10. *Grindlay D, Reynolds T. The Aloe vera phenomenon: A review of the properties and modern uses of the leaf parenchyma gel. J Ethnopharmacol. 1986; 16:117-51*
11. *Kokate CK, Purohit AP, Gokhale SB. Textbook of Pharmacognosy. 49th ed. Pune: Nirali Prakashan, 2014.*
12. *Abdul Wadood Khan, Sabna Kotta, Shahid Hussain Ansari, Rakesh Kumar Sharma, Amit Kumar and Javed Ali, Formulation development, optimization and evaluation of aloe vera gel for wound healing. Pharmacogn Mag. 2013 Oct-Dec; 9(Suppl 1): S6- S10. Doi: 10.4103/0973- 1296.117849*
13. *Mona Patel, Ojash Patel, formulation and evaluation of herbal lipstick using beta vulguris extract.International ayurvedic medical journal. June 2021.*
14. *S. Deshmukh, M. Chavan, M. Sutar, S. Singh, Preparation and evaluation of natural lipsticks from bixa orellana seeds, Int J Pharm Bio Sci. 4 (2013) 139-144.*
15. *GOUVEA, M.C.B.L.F. Desenvolvimento de base de batons, Cosmet. Toiletries (Portuguese edition), v.5, n.2, p.49-56, 1993.*
16. *Sharma PP, cosmetics- Formulation, manufacturing and quality control, Edn 5. Vandana publications, Delhi, 2008, 297-313.*
17. *H. Ratih, H. Titta, C.P. Ratna, Formulation of Cananga Oil Lip Balm as Emolient". Prosiding Simposium Penelitian Bahan Obat Alami (SPBOA) XIV dan Muktamar XII PERHIPBA 2014. Yogyakarta: Leutikaprio. P. 3, 2014.*
18. *P.P. Sharma, "Cosmetics-Formulation, manufacturing and quality control", fourth ed. (2008). Vandana Publications Pvt. Ltd.*