Review Article on Lipstick

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***Abstract*—Lipstick is a widely used cosmetic product designed to enhance the color, texture, and appearance of the lips. It is formulated using a combination of waxes, oils, pigments, and emollients that provide structure, spreadability, and moisturization. The balance of these ingredients determines key attributes such as hardness, melting point, gloss, and color intensity. Modern lipstick formulations incorporate various functional additives, including antioxidants, preservatives, and UV filters, to improve stability and safety. Technological advancements have enabled the development of long-lasting, transfer-proof, and moisturizing lipsticks tailored to consumer preferences. Overall, lipstick plays a significant role in cosmetic science, combining aesthetics with formulation chemistry to ensure product performance and user satisfaction.**

***Index Terms*—Introduction, Ideal Properties, Composition, Manufacturing of Lipstick Formulation, Composition Evaluation**

I. INTRODUCTION

Lipstick is one of the most widely used cosmetic products formulated to enhance the color, texture, and appearance of the lips. It is a semisolid preparation made by blending waxes, oils, fats, pigments, and various functional additives that give it desirable characteristics such as smooth application, stability, shine, and hydration. Historically, the use of lip color dates back to ancient civilizations including the Sumerians, Egyptians, and Greeks, who used crushed gemstones, plant extracts, and minerals to decorate the lips and express cultural identity [1]. With the advancement of cosmetic science, modern lipsticks now incorporate specialized ingredients such as emollients (e.g., castor oil, lanolin), antioxidants, preservatives, and sunscreens to improve lip health, product safety, and wear performance. They are available in diverse forms matte, gloss, creamy, satin, liquid, and herbal each offering unique sensory and functional benefits. Formulation of lipsticks involves achieving an ideal balance between melting point, hardness, spreadability, color stability, and resistance to sweating and breaking. Because lip products come in direct contact with the mouth and may be ingested in small amounts, regulatory bodies ensure the use of safe colorants and ingredients in their manufacturing [2]. Today, lipstick plays an essential role not only in beauty enhancement but also in personal expression, confidence building, and the global cosmetics industry. Continuous innovations in formulation technology have led to long-wear, transfer-proof, and nourishing varieties that cater to modern consumer preferences.

Key Characteristics:

- Smooth application and even spread.
- Good color intensity and consistency.
- Firmness and resistance to temperature changes.
- Long-lasting color and no smudging.

Fig: 1-Lipstick

Benefits of Lipstick (With References)

1. Enhances Lip Color and Appearance:

Lipstick improves the natural color of the lips, adds definition, and enhances overall facial aesthetics, making the face look more vibrant and expressive [1].

2. Provides Hydration and Softness:

Many lipsticks contain emollients such as castor oil, lanolin, and shea butter that help moisturize the lips and prevent dryness [2].

3. Offers Protection from Environmental Damage:
Modern formulations may include sunscreens and antioxidants that protect the lips from UV radiation, wind, and pollution [1].
4. Boosts Confidence and Self-Expression:
Wearing lipstick can improve self-esteem, enhance mood, and allow individuals to express their personality through color choice [2].
5. Improves Lip Texture:
Certain creamy and nourishing lipsticks smoothen the lip surface, reducing the appearance of cracks and dryness [1].

Advantages Of Lipstick
1. Enhances Lip Appearance: Lipstick adds color and definition, improving overall facial aesthetics and expression [1].
2. Provides Moisturization: Many lipsticks contain emollients like castor oil, shea butter, and lanolin that help keep lips soft and hydrated [2].
3. Protects Lips: Some formulations include sunscreens and antioxidants that protect lips from UV radiation and environmental damage [1].
4. Boosts Confidence: Wearing lipstick can enhance self-expression and improve psychological confidence in social or professional settings [2].

Disadvantages of Lipstick:
1. May Cause Dryness: Some long-wear or matte lipsticks can lead to lip dryness or cracking due to low oil content [1].
2. Potential Allergic Reactions: Sensitive individuals may develop irritation from fragrances, dyes, or preservatives in lipsticks [2].
3. Frequent Reapplication Needed: Conventional lipsticks may fade due to eating, drinking, or lip movement, requiring multiple touch-ups [1]
4. Risk of Contamination: Sharing or improper storage of lipsticks can lead to microbial contamination and lip infections [2].
1)Health and Safety Concerns:Contains harmful chemicals: Some lipsticks may contain lead, parabens, or other toxic metals, which can accumulate in the body over time.
2)Allergic reactions: Certain ingredients, dyes, or fragrances can cause irritation, rashes, or allergic reactions on sensitive lips or skin.
3)Dryness and chapping: Frequent use of lipstick—especially matte or long-wear types—can dry out lips and lead to cracking or peeling.
4)Bacterial contamination: Sharing lipstick or using it past its expiry date can spread bacteria or viruses, potentially causing infections.

Ideal Properties of Lipstick
1. Smooth and Uniform Application:
An ideal lipstick should glide easily on the lips without dragging and provide even color distribution [1].
2. Good Spreadability and Adhesion:
It should spread well and adhere properly to the lips to ensure better coverage and long-lasting effect [2].
3. Appropriate Melting Point:
Lipstick must have a melting point slightly above body temperature (around 55–75°C) to maintain stability while allowing smooth application [1].
4. Non-irritant and Safe Ingredients:
All raw materials used should be non-toxic, dermatologically safe, and compliant with cosmetic standards [2].
5. Color Stability:
The pigment should remain stable without fading, bleeding, or discoloration during use and storage [1].
6. Pleasant Odor and Taste:
An ideal lipstick should have an acceptable fragrance and taste so that it is comfortable for the user [2].
7. Suitable Hardness and Strength:
It should be firm enough to resist breaking yet soft enough to apply smoothly without crumbling [1].
8. Gloss and Aesthetic Appeal:
Lipstick should provide the desired shine, matte finish, or gloss depending on the formulation objective [2].
9. Non-greasy and Non-sticky Feel:
It should not feel oily or sticky on the lips, ensuring good sensory acceptance [1].
10. Resistance to Sweat and Temperature Variations:
Lipstick should not melt, bloom, or sweat under normal storage or environmental conditions [2].

Types of Lipsticks:
1. Matte Lipstick
A. Gives a flat, non-shiny finish.
B. Highly pigmented with long-lasting color.
C. Contains less oil and more wax.
D. Can feel dry on the lips.

2. Satin / Semi-Matte Lipstick
A. Balanced finish—not too shiny, not too flat.
B. Smooth application with good moisture.
C. Popular for everyday use.

3. Cream Lipstick
A. Soft, creamy texture.
B. Moisturizing and comfortable to wear.
C. Gives medium shine.
D. May not be very long-lasting due to high oil content.

4. Gloss Lipstick / Lip Gloss
A. Provides a shiny, wet look.
B. Sheer pigmentation.
C. Hydrating and ideal for dry lips.
D. Needs frequent reapplication.

5. Liquid Lipstick
A. Comes in liquid form with an applicator wand.
B. Dries down to matte or semi-matte finish.
C. Very long-lasting and smudge-proof.

6. Lip Stain / Tint
A. Lightweight and long-wearing.
B. Gives a natural flush of color.
C. Water or gel-based formulas.

7. Lip Balm / Tinted Lip Balm
A. Primarily for hydration.
B. Contains moisturizing ingredients like shea butter, oils, and waxes.
C. Light tint suitable for natural looks.

II. ANATOMY OF THE LIPS

The lips (labia oris) are soft, mobile, and highly vascular structures forming the entrance to the oral cavity. They play key roles in speech, facial expression, mastication, and cosmetic appearance.

1. Skin (Outer Surface)
Thin keratinized stratified squamous epithelium.
Contains hair follicles, sweat glands, and sebaceous glands.Transitions into the vermillion border.

2. Vermillion Zone (Red Part of Lips)
Thin, non-keratinized epithelium.
Appears red due to rich capillary network beneath the surface.Lacks sweat and sebaceous glands → easily dries out.

3. Oral Mucosa (Inner Surface)
Non-keratinized stratified squamous epithelium.
Lubricated by minor salivary glands.

4. Musculature
Mainly orbicularis oris muscle, responsible for lip movement (closing, puckering).
Attached to other facial muscles for expression.

5. Connective Tissue & Vessels
Rich in blood vessels and nerve supply (branches of facial nerve & trigeminal nerve).
Dense connective tissue provides elasticity and shape.

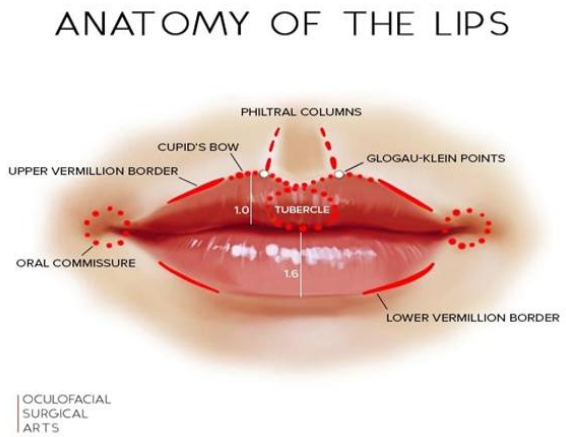


Fig :2- Anatomy of The Lips

Active Pharmaceutical Ingredients &Excipients Profile:

Sr. No.	Ingredient	Quantity
1	Carnauba Wax	10 g
2	Bees Wax	15 g
3	Lanolin	5 g
4	Cetyl Alcohol	4 g
5	Castor Oil	62 g
6	Candelilla Wax	2 g
7	Ozokerite Wax	2 g
8	Dye + Perfume	q.s

1) Carnauba Wax:
Carnauba wax is a hard, plant-based wax extracted from the leaves of the Brazilian carnauba palm tree and is used in various products for its natural gloss,

durability, and protective properties. It is commonly found in cosmetics and polishes for cars and wood, and as a food-grade glazing agent for products like candies, snacks, and cheeses. Its chemical composition consists mainly of esters, and it has a high melting point, making it a strong and durable natural wax.
Source and extraction

- Source: Carnauba wax comes from the leaves of the carnauba palm tree, native to northern Brazil.
- Extraction: The wax is collected during the dry season by cutting the leaves, after which the wax scales are scraped off, beaten, and processed.
- Production of Carnauba Wax:

The wax is obtained from the palm leaves in a systematic process of collection, drying, beating, refining, and finally purification by filtration, centrifugation, and bleaching. The palm produces the wax in the cuticles of the palm fronds. The leaves are collected from the trees grown in the wild or cultivated by cutting the leaves, drying in the sun, and then threshing/beating.

Benefits of Carnauba Wax in Lipstick:
1. Provides Hardness & Structure
Carnauba wax has a high melting point (around 82–86°C). It gives the lipstick firm structure, helping it maintain shape even in hot climates.
2. Improves Gloss & Shine
It imparts a smooth, glossy finish to the lipstick, enhancing aesthetic appeal.

Fig :3-Carnauba Wax

2)Bess Wax:Beeswax (Cera Flava or Cera Alba) is a substance from honeycombs of the bee Apis mellifera that is used as an ingredient in ointments, plasters, and cosmetics due to its physical properties and emollient qualities. Chemically, it's a mixture of esters, fatty acids, and alcohols, with key constituents including myricyl palmitate. Its quality is assessed by its melting point, acid value, and saponification value, and it can be adulterated with other waxes or fats, which can be detected through chemical and physical tests. Top of Form

2) Bees Wax:
Bottom of Form
Beeswax is a key ingredient in lipstick, providing structure, texture, and a protective, moisturizing barrier for the lips. It is a natural emollient that helps bind ingredients, add firmness, and prevent moisture loss, while its antibacterial and vitamin A content promote healing and protect against sun damage.
Beeswax creates a barrier that prevents moisture loss, keeping lips hydrated for hours. Natural Protection: It shields the lips from harsh weather conditions, such as wind and sun, preventing chapping and dryness

Source:
Beeswax is a purified wax obtained from the honeycomb of the honeybee, primarily Apis mellifera L. and other species of Apis, belonging to the family Apidae.

Fig : 4-Bees Wax

3) Lanolin:
Lanolin is a waxy substance sourced from sheep's wool that is widely used in lipsticks and lip balms for its hydrating, emollient, and occlusive properties Lanolin functions as an occlusive, forming a protective barrier over the lips to prevent moisture loss.

Source:
Lanolin is the purified, fat-like waxy secretion from the sebaceous glands of the sheep, Ovis aries Linne´ (Family: Bovidae). This secretion is naturally deposited onto the wool fibers to protect the animal from the environment and keep its coat waterproof.

Lanolin Extraction:
Lanolin is the waxy, yellowish substance that sheep secrete to protect their wool and skin. The commercial product used in pharmacy is a highly refined version of that natural fat. Below is a step –by-step overview of the pure lanolin that ends up in ointments,creams &other topical preparations.

Fig: 5-Lanolin

4) Cetyl Alcohol:
Cetyl alcohol is a fatty alcohol derived from vegetable sources like palm or coconut oil. It helps to increase the product's viscosity, which gives the lipstick a solid, manageable texture. It helps to combine oil- and water-based ingredients, creating a smooth and consistent formula.
Is Cetyl Alcohol Safe?
Yes—it's generally non-irritating and considered safe for sensitive skin.
However, rare allergic reactions can occur, especially in people with very sensitive or compromised skin.
Definition: Cetyl alcohol (hexadecanol, C16H34O) is a long-chain fatty alcohol obtained from natural fats or petroleum sources. It appears as a waxy, white, solid substance used widely as an emollient, thickening agent, and stabilizer in pharmaceutical and cosmetic formulations.

Fig 6-Cetyl Alcohol

5) Castor Oil:
Castor oil is a common ingredient in lipstick and lip balms, prized for its ability to moisturize, create a smooth texture, and provide a glossy finish. Its high concentration of ricinoleic acid helps to hydrate the lips, while its viscosity and solvent properties contribute to the product's structure and wear.

Fig: 7-Castor Oil

Why Castor Oil is Used in Lipstick:
1. Excellent Solvent for Dyes (Key Role)
Castor oil dissolves oil-soluble dyes and lakes better than most oils.
Gives bright, uniform, stable color to the lipstick.
2. Provides Gloss and Shine: Gives a glossy finish to the applied film.Improves aesthetic appeal.
3. Plasticizer / Softening Agent: Prevents the lipstick from becoming brittle.Improves flexibility and reduces cracking.
4. Emollient Action: Softens and moisturizes the lips.Leaves a smooth, non-greasy feel.
5. Dispersing Medium for Pigments: Helps disperse pigments uniformly.Improves color intensity and spreadability.

6. Enhances Spreading and Glide: Provides good slip during application.Makes the lipstick apply smoothly and evenly.

6)Candelilla Wax:

Candelilla wax is a plant-based, vegan alternative to beeswax that is used in lipsticks for its ability to add hardness, shine, and stability, ensuring the product maintains its shape and applies smoothly. It acts as a thickener, helping to bind other ingredients, and contributes moisturizing and emollient properties to the lipstick formula. The typical usage rate in lipsticks is between 3% and 15%.

Candelilla wax is a plant-derived wax obtained from the leaves of the candelilla shrub (Euphorbia antisyphilitica), which grows mainly in northern Mexico and the southwestern United States. In modern lipstick formulations it is valued for a combination of functional and aesthetic properties.

1. Physical and Chemical Profile

- Melting point: ≈ 68–72 °C (higher than many other natural waxes).
- Hardness: Moderately hard, giving structure without making the stick brittle.
- Colour: Pale yellow to amber; can be bleached to a near-white grade for colour-sensitive formulas.
- Solubility: Soluble in oils and organic solvents; insoluble in water, which helps maintain a moisture-proof film on the lips.

Source / Botanical Origin: Candelilla wax is derived from the leaves and stems of Euphorbia cerifera (synonym Euphorbia antisyphilitica), a shrub in the Euphorbiacea family.

Fig: 8-Candelilla Wax

7) Ozokerite Wax:

Ozokerite wax is used in lipstick to provide structure, stability, and hardness. It acts as a thickener to increase viscosity and prevent the lipstick from becoming too soft, and it also adds strength to the stick itself, preventing it from breaking. This mineral or petroleum-derived wax improves the texture and consistency of the product.

Source of Ozokerite Wax:

- Natural Origin: Ozokerite wax is a naturally occurring mineral wax.
- Primary Source: It is obtained from bituminous (petroleum-based) deposits found in the Earth.
- Mining Locations: Major historical sources include Galicia (Poland/Ukraine region), as well as deposits in Utah (USA) and parts of Russia.
- Formation: It forms naturally in oil-bearing shale and sandstone where hydrocarbons solidify over time.

Fig: 9-Ozokerite Wax

8) Dye (Perfume):

Both dyes and pigments are used for color in lipstick, while perfumes are added for fragrance. Dyes (or lake dyes) are water-soluble and stain the lips for a more intense, long-lasting color, while pigments are insoluble and are ground into powders to create opaque color. Perfumes, often with floral or fruity scents, are used to mask the odor of other ingredients and add a pleasant aroma.

Dyes and pigments:

- Dyes: These are often derived from ingredients like bromo acids and are known for creating intense, long-lasting color because they stain the lip surface.
- Pigments: These are insoluble inorganic or organic compounds, such as mineral compounds like mica, that are ground into fine powders to provide color.

Examples: Carmine, a dye derived from cochineal insects, is a popular colorant for red lipsticks. Other pigments include titanium dioxide (for white) and ultramarine.

Sources of Dyes:

1. Natural Sources
   - Plant-based dyes: Indigo, Henna, Turmeric, Saffron, Madder.
   - Animal-based dyes: Cochineal (from insects), Tyrian purple (from mollusks).
   - Mineral-based dyes: Red ochre, yellow ochre.

2. Synthetic Sources
   - Coal tar (aniline) dyes: Azo dyes, Anthraquinone dyes.
   - Petrochemical-based dyes: Modern synthetic dyes used in textiles, plastics, inks.

Fig :10 – Lipstick Formulation

III. AIM & OBJECTIVE

A) AIM: To prepare & evaluate the lipstick

B) Objective: To prepare lipstick. To evaluate the prepare lipstick.

IV. LITERATURE &REVIEW

The literature review includes several studies on herbal and cosmetic lipstick formulations. A study published in the Asian Journal of Medical and Publication by Pooja Mishra and Sumeet Dwivedi on 08-03-2020 focused on the formulation and evaluation of lipsticks containing herbal ingredients. The authors concluded that the formulated herbal lipstick offered a better option for women with minimal side effects. Another study, published on 17-07-2021 in the International Journal of Pharmacy & Pharmaceutical Science by Abhijeet A., Preeti T., and Pardeep K. et al., worked on the formulation and evaluation of herbal lipstick using color pigment from Bixa orellana. Their investigation indicated that the prepared herbal lipstick was a better option for women.Further, a study from the International Journal of Pharmaceutical Sciences Review and Research by Namrata B.U., Kranti K.R. et al.,published on 02-03-2020, focused on the design, development, and assessment of herbal lipstick from natural pigments. The authors found that these lipsticks showed minimal side effects. Additionally, research published on 17-04-2019 in the International Journal of Cosmetic Science by M.S. Taylor and I.T. Norton explored the design and application of a water-in-oil emulsion for use in lipstick formulation. Their work concluded that the water-in-oil emulsion provided improved results in lipstick products.The literature review includes a study published in the International Journal of Research and Analytical Reviews. The research was conducted by Pallavi S., Rohit R., and Rajendra, focusing on the formulation and evaluation of herbal lipstick containing Amaranthus cruentus Linn. This study, published on 06-03-2020, aimed to perform evaluation tests on lipstick prepared using colour pigments in two different quantities and at three different time intervals. The pigments used in the formulation were obtained through ultrasonication extraction.

1) Anuj Vargheae et al. they concluded that there is the wide range of herbal cosmetics are safe on human health. Natural cosmetics are suitable for the 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 the sensitive skin condition.

2) M. Sainath et al. they conducted studied on Breaking point of prepared lipstick- Breaking point test is to determine the strength of lipstick place lipstick horizontally in a socket inch away from the edge of support. Increase the weight by a specific values [10gm] at a specific interval of 30 second and weight at which breaks in considered as the breaking point.

3) Richa Kothari et al. they concluded that use of product has increased and choice of shades of colour, textures, luster, have been changed and become wider. This can observe
from the facts that lipstick is marketed in hundreds of sheds of colours to satisfy the demand
of the women.

V. FORMULATION METHODS:

The herbal lipstick was formulated as per general method of lipstick formulation. In brief, all hard and soft waxes were melted in China dish on water bath or heating Mantle with decreasing order of their melting point. Concentrated colouring's pigment was mixed and Castor oil heated, both phases were mixed at some temperature. Rose oil, Lemon juice, eugenol, shikia powder, vanilla essences were added at 400 c, then mixture was poured into lipstick mould in excess amount and mould were kept on ice bath. After solidification surplus amount was scrapped with blade, lipsticks were removed from mould and flamed, prepared lipsticks were fitted in lipsticks container and used for further evaluation (6)

Formulation Methods for Lipstick

Lipstick formulation involves a systematic procedure to achieve a stable, smooth, and uniform product. The steps include melting, pigment dispersion, mixing, molding, cooling, flaming, and packaging. Each stage affects texture, stability, color intensity, and appearance.

1. Melting of Waxes (Preparation of Wax Phase)

This is the first crucial step, as waxes form the structural backbone of the lipstick.

Process Details

Waxes used: Beeswax, candelilla wax, carnauba wax, ozokerite, microcrystalline wax.

All waxes are placed in a stainless-steel melting pan or jacketed kettle.

Heating is done using a water bath or steam jacket.

Temperature is raised to the melting point of the hardest wax (≈ 80–90°C).

The mixture is stirred continuously to prevent burning or uneven heating.

Purpose

Creates a homogenous wax base.

Ensures structural integrity, hardness, and mold stability.

2. Addition of Oils (Preparation of Oil Phase)

Process Details

Oils such as castor oil, mineral oil, lanolin, olive oil, jojoba oil, isopropyl myristate are added gradually to the molten wax.

The mixture is stirred continuously to maintain uniformity.

Temperature is maintained between 70–75°C to prevent solidification during mixing.

Purpose

Adjusts viscosity and spreadability.

Enhances gloss, lubrication, and application feel.

Helps dissolve lipophilic colorants.

3. Pigment Dispersion (Grinding Step)

This is one of the most important steps for color quality.

Process Details

Pigments (iron oxides, titanium dioxide, D&C lakes) are mixed with a portion of oil (usually castor oil).

Grinding tools used:

Triple roller mill (most preferred)

Mortar and pestle

High-shear homogenizers

Grinding breaks the pigment agglomerates into fine particles (<10 μm).

Proper grinding ensures smooth texture and uniform color.

Purpose

Ensures strong color payoff.

Prevents streaking, patchiness, and gritty texture.

Improves stability by preventing pigment settling.

4. Mixing and Homogenization

Process Details

Pigment/oil dispersion is slowly added to the wax–oil mixture.Temperature is maintained at 70–75°C.

High-speed stirrers or mechanical mixers are used.

Additional ingredients are added at appropriate temperatures:

Antioxidants (e.g., BHT, tocopherol)

Preservatives (if needed)

Pearlescent agents (mica, bismuth oxychloride)

Flavoring agents

Perfume (added last at ≤ 60°C to prevent loss of fragrance)

Purpose

Produces a completely uniform mixture.

Improves texture, gloss, and smoothness.

5. Molding (Shaping of Lipstick)

Process Details

The molten mass is poured into pre-lubricated metal or silicone molds.

The mold cavity is slightly overfilled to compensate for shrinkage.
Bottom plate and alignment pins ensure the perfect shape.
The pouring temperature is carefully controlled at 70–75°C.
Purpose
Gives the lipstick its final shape.
Ensures uniform, crack-free structure.

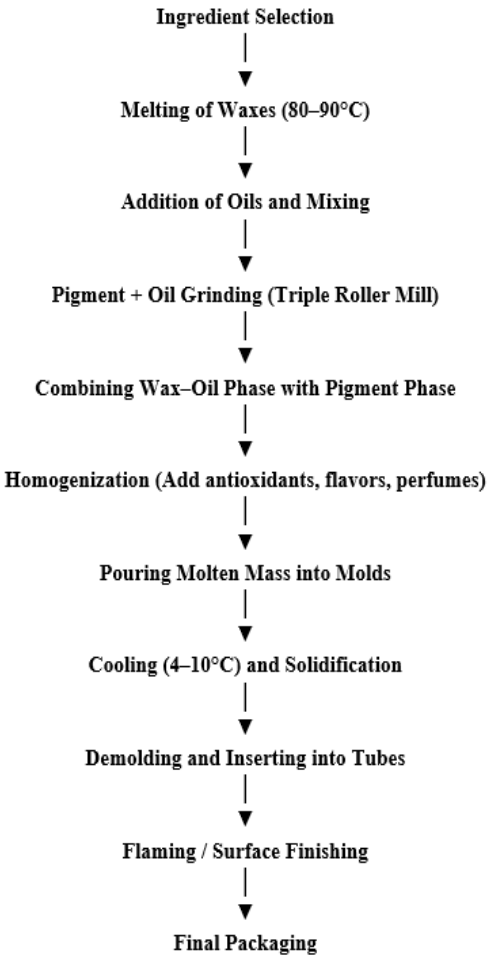
6. Cooling and Solidification
Process Details
Molds are placed in a cooling chamber (4–10°C).
Slow cooling prevents cracking, sweating, and air bubble formation.
After complete solidification, the top excess is scraped.
Purpose
Allows the product to shrink slightly and detach from the mold smoothly.

7. Demolding
Process Details
Once fully solid, molds are opened gently.
Lipstick bullets are removed without applying force.
Bullets are inserted into metal/plastic lipstick containers.
Alignment must be precise to avoid breakage.
Purpose
Prepares the lipstick for finishing and packaging.

8. Flaming / Surface Finishing
Process Details
Lipstick surface is passed briefly under a controlled flame or infrared heater.
Removes surface imperfections such as:
Bumps
Lines
Fingerprints
Small cracks
Provides glossy, aesthetically appealing finish.
Purpose
Enhances appearance and marketing value.

9. Final Packaging and Labelling
Process Details
Lipstick is allowed to stabilize at room temperature.
Tubes are capped and labelled.
Stored in a cool environment before distribution.
Purpose
Ensures protection, consumer safety, and regulatory compliance.

Complete Detailed Flowchart



VI. EVALUATION TEST

A) Colour & Texture:
Formulated lipsticks were checked for colour, glossy and smooth texture.
Lipstick colors are created using a variety of organic and inorganic pigments and dyes. The final shade is influenced by your natural lip color and skin undertone (warm, cool, or neutral).
Lipsticks offer a wide array of colors determined by pigments, and diverse textures (finishes) which depend on their oil and wax content.

B) pH:
pH (for water-containing formulations)
What: Compatibility with lip skin, stability of actives.
Method: pH meter on aqueous extract.
Acceptance: Typically, near skin pH but depends on formula.

C) Determination of Melting Point:
Determination of melting point is an important parameter for lipstick formulation; as it is an indication of the limit of safe storage. It was determined by capillary tube method. Melt approximately 50mg sample of lipstick and filled into glass capillary tube opened at both ends. Capillary was cooled with ice for 2h and fastened with thermometer. Thermometer with capillary was deep in the beaker containing full of water which was placed on heating plate with magnetic stirrer. Heating and stirring was started slowly at fixed speed. The temperature at which material moves along the capillary tube was considered as melting point.

D) Breaking Point:
This test was carried out to find out the value of maximum load that lipstick canwithstand before it breaks. This test gives strength of lipstick. It was checked by held lipstick horizontally in a socket inch away from the edge of support. Gradually the weight increases by a specific value 10gm at specific interval of 30 secs. The weight at which breaks was considered as the breaking point.

E) Perfume stability:
The prepared herbal formulation was tested after 30 days, to record perfume stability.Force of application: It tests the relative strength of the application. A piece of dark brown paper kept in the balance of the shadow graph and lipstick was placed at an angle of 45º to cover an area of 1 sq. M. Inch until completely covered. Pressure reading is an indicator of working capacity.

F) Dye/Colour Stability
Method: Spectrophotometric measurement of the colour intensity before and after exposure to light (UV) and heat (accelerated stability). Purpose: Confirms that the colour does not fade or change hue under normal use and storage.

6) Spreadability / Pay-off / Uniformity
What: How the product transfers from stick to substrate (skin/swatch) and the uniformity of film.
Methods:Pay-off test: Rub fixed number of strokes on standardized substrate (paper or synthetic skin) and measure transferred mass or optical density with spectrophotometer.
Spreadability: Use a parallel plate spreader-apply fixed load and measure area/film thickness.
Interpretation: Higher pay-off yields stronger color from one swipe; spread and uniformity determine consumer feel. Many formulation studies report these measures.

8) Microbiological testing & preservative efficacy
What: Total viable count (TVC), absence of objectionable organisms (S. aureus, P. aeruginosa, Candida albicans), and preservative efficacy (challenge test /PET).
Methods & guidance: Follow recognized microbiological SOPs and national/ISO/BIS methods (for example BIS IS 14648 methods for microbial testing of cosmetics). For PET, inoculate product with standardized microbial strains, incubate and measure log reduction over time (samples at 7, 14, 28 days typical).
Acceptance (examples): Many guidelines set TVC ≤10^3 CFU/g for category 2 cosmetics; absence of pathogens. Preservative efficacy: specified log reductions for bacteria (≥3 log) and fungi (≥1-2 log) at stated timepoints-see PET protocols.

VII. PROCEDURE:

• Place the lipstick with protruded salve in the flat bottom tube. Fix the thermometer through a cork in such a way that the bulb of the thermometer just touches the lipstick salve. Insert this arrangement into a 1litre beaker filled with water to a level 1cm above the upper tip of the lipstick salve. Slowly heat the water while stirring so that temperature rises at a rate not exceeding 2°C per min.

- When the temperature reaches about 45°C, raise the temperature at the rate of 1° C per min. Constantly watch the lipstick salve.
- Record the temperature when the salve starts bending and losing its shape.
- Colour: In this colour imparting on the lip surface is observed

- Film: Type of film formed is observed
- Spread ability: spread ability of formulation is observed.

VIII. CONCLUSION

Study concluded that herbal lipstick can be successfully formulated using different natural ingredients such as white bees wax, butter, castor oil, coconut oil, olive oil, vanilla & rose essence, papaya extract and lemon. It is also concluded the use of natural colorants in lipstick formulation having very less or no side effect. Thus, the prepared lipstick can take safe and effective after thorough clinical trials.

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