WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Cosmetic Product Lipstick : A Review

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ABSTRACT-

Lipstick is a cosmetic product containing natural ingredients such as pigments, waxes, oils and emollients were used to formulate lipstick. ... Both organic and inorganic pigments are employed. Lipsticks are one of the key cosmetics to be used by the women

Keywords-Waxex , Oil ,Emollients

INTRODUCTION

Cosmetics are substances used to enhance the appearance of the human body. Cosmetics include skin-care creams, lotions, powders, perfumes, lipsticks, fingernail and toe nail polish, eye and facial makeup, permanent waves, colored contact lenses, hair colors, hair sprays and gels, deodorants, baby products, bath oils, bubble baths, bath salts, butters and many other types of products are in great demand in both developing and developed countries.[1] Lipstick is a cosmetic product containing pigments, oils, waxes, and emollients that apply color, texture, and protection to the lips. Many colors and types of lipstick exist. As with most other types of makeup, lipstick is typically, but not exclusively, worn by women. Some lipsticks are also lip balms, to add color and hydration. Although the name originally applied to the baton (stick) of material, within a tubular container, usually around 10mm in diameter and 50mm in length the term has now generally transposed to the material itself, regardless of method of application.[2]

Fig No- 1: Lipstick

Lipstick

Lipstick started to gain popularity in the 16th century, during the reign of Queen Elizabeth I who made blood-red lips and stark white faces a fashion statement. By that time, lipstick was made from a blend of beeswax and red stains from plants. During the Second World War, lipstick gained popularity as a result of its use in the movie industry, and it became commonplace for women to apply makeup, or "put their face on". As with most other types of makeup, lipstick typically but not exclusively worn by women. It is usually not worn until a female reaches adolescence or adulthood. Another form of lip color (Liquid lipstick), a wax-free semi-permanent liquid formula, was invented in the 1990s by the Lip-Ink International Company. Other companies imitated the idea, putting out their own versions of long-lasting "liquid lip color" but were not allowed to infringe on the patented wax-free formula. A various lip coloring preparations including: Lipstick

- Lip gloss (Lip paint)
- Rouges
- Lip liner• Lip slaves.

Lipsticks are very popular and frequently used by ladies of any society to brighten the color of the lips. Lipsticks are composed of oil-wax base stiff enough to still. In lipstick red staining dye is dispersed in oil and red pigment is incorporated therein perfumed and suitably flavored used in comparison to other cosmetics.[2]

Ideal characteristics of lipsticks

1. It should be smooth and easy to apply on lips and leave a thin film over it.
2. It should be non-irritant and non-toxic.
3. It should have miraculous wear, moisture, color and shine. It should
4. be free from grittiness and should be non-drying.
5. It should have required plasticity.
6. It should be innocuous internally as well as externally.[3]

1.Beauty
No matter what style of lip color you prefer (sharp, bold and dramatic colors, or more natural and subdued shades that can be translucent), you will instantly feel more beautiful. If your goal is to stand out in the crowd, be more beautiful, or you simply need a boost in your confidence, lipstick is a perfect fashion tool for you.

2.Hydration
Even though some older brands of lipsticks use ingredients that can suck moisture from you lips, most of them are very conscientious about hydration and are made to preserve the natural state of your lips. New brands of lipstick can often contain some form of moisturizing additive, such as vitamin E or aloe-vera.

3.Sunscreen
Even in early 20th century, chemist and fashion designers came to conclusion that sunscreen protection is important and that most people leave their sensitive lips up to the mercy of the sun even if they are conscious about protecting the rest of the face. Lipstick manufacturers then added sun protection ingredients to their products, enabling you to protect your lips from sun, drying, wind, and other harmful and aging effects.

4.Posture
Several studies have shown that women who regularly use lipstick have a better posture in the later years of their life. With long and steady tradition of standing in front of the mirror and keeping your posture and body shape in healthy conditions, women in the ages of 65 to 85 have significantly less problems with their posture and balance.[3]

Disadvantages

The following are a few harmful effects of lipsticks that can occur if you use low quality products constantly.

1.Heavy Metals
Studies have shown that lipsticks have concerning levels of chromium, cadmium and magnesium. This will result in increasing your risk to dangerous diseases and organ damage. High levels of cadmium can be stored in the kidney and finally result in renal failure.
Applying and re-applying lipsticks many times during the day can lead to stomach tumors. These are some of the harmful effects of lipsticks.

2.Lead
It has been revealed that most of the lipsticks have a dangerously high amount of lead. Lead is a neurotoxin and can affect the nervous system. It can also cause brain damage. This is one of the reasons for hormone imbalance and infertility. Even if it's taken in small quantities, it can have drastic effects on the body.

3.Formaldehyde and Mineral Oil

Formaldehyde is a preservative, which is also known as human carcinogen. Wheezing, coughing, irritation of the eyes and skin are other effects of formaldehyde. Mineral oil is another ingredient which is used in lipstick to block the pores. Many of the harmful effects of lipsticks are due to these chemicals.

4.Parabens and Bismuth oxy chloride

These are two other ingredients that are used in the making of lipsticks. The harmful effect of lipsticks is due to the carcinogenic property of these two ingredients. The parabens act as preservatives just like the formaldehyde. Though this is used in preserving the lipstick, it is very harmful for the body.[3]

Formulation of Lipstick

Lipstick is composed of waxes, oils, pigments, and emollients which are adjusted to desired melting point and viscosity. Various agents in lipstick formulations are:

Table 1: Components of lipstick and functions.

Ingredients	%w/w	Function
Base Solid waxes Softening agents	 10 15	 Provides hardness Lubricates
Oil	65	Dispensing the pigment
Coloring agents	Adequate	Give color
Perfumes	Adequate	Give aroma
Preservative	Adequate	Stabilize the formulation

The 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 colorings pigment was mixed and Castor oil heated. both phases were mixed at some temperature. Rose oil. Lemon juice, eugenol, shikakai powder. vanilla essences were added at 40^ 0- then mixture was poured into lipstick mould in excess amount and mould was kept on ice bath After solidification surplus amount was scrapped with blade, lipsticks were removed from mould and flammed. prepared lipsticks were fitted in lipsticks container and used for further evaluation (Jain & Dharma 2005)

Anatomy of Lip

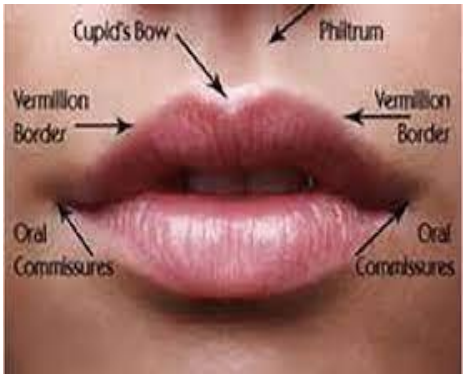

Figure 2: Anatomy of lips

The upper and lower lips are referred to as the "Labium superiusoris" and "Labium inferiusoris", respectively. The juncture where the lips meet the surrounding skin of the mouth area is the vermilion border, and the typically reddish area within the borders is called the vermilion zone. The vermilion border of the upper lip is known as the Cupid's bow. The fleshy protuberance located in the center of the upper lip is a tubercle known by various terms including the procheilon (also spelled prochilon), the "tuberculum labiisuperioris", and the "labial tubercle". The vertical groove extending from the procheilon to the nasal septum is called the philtrum. The skin of the lip, with three to five cellular layers, is very thin compared to typical face skin, which has up to 16 layers. With light skin color, the lip skin contains fewer melanocytes (cells which produce melanin pigment, which give skin its color). Because of this, the blood vessels appear through the skin of the lips, which leads to their notable red coloring. With darker skin color this effect is less prominent, as in this case the skin of the lips contains more melanin and thus is visually darker. The skin of the lip forms the border between the exterior skin of the face, and the interior mucous membrane of the inside of the mouth.

The lower lip is formed from the mandibular prominence, a branch of the first pharyngeal arch. The lower lip covers the anterior body of the mandible. It is lowered by the depressor labiiinferioris muscle and the orbicularis oris borders it inferiorly.

The upper lip covers the anterior surface of the body of the maxilla. Its upper half is of usual skin color and has a depression at its center, directly under the nasal septum, called the philtrum, which is Latin for lower nose, while its lower half is a markedly different, red- colored skin tone more similar to the color of the inside of the mouth, and the term vermillion refers to the colored portion of either the upper or lower lip. It is raised by the levatorlabiisuperioris and is connected to the lower lip by the thin lining of the lip itself, which can be seen by opening your mouth wide in front of a mirror. Thinning of the vermilion of the upper lip and flattening of the philtrum are two of the facial characteristics of fetal alcohol syndrome, a lifelong disability caused by the consumption of alcohol during pregnancy.[4]

Ingredients

Lipstick contains wax, oils, antioxidants and emollients. Wax provides the structure to the solid lipstick. Lipsticks may be made from several waxes such as bees wax, ozokerite and candelilla wax. Because of its high melting point, Carnauba wax is a key ingredient in terms of strengthening the lipstick. Various oils and fats are used in lipsticks, such as olive oil, mineral oil, cocoa butter, lanolin, and petrolatum. Lead and Lead and other trace metals are also found in many lipsticks. It is impossible to know whether these metals are in the lipstick by looking at the ingredient list because they are not an intentional ingredient added, but rather, an unintentional contaminant. These trace metals are metals are naturally occurring and accidentally get taken up with other chemicals that are used in lipstick production. Lead and other trace metals will not be listed in the ingredients section of different lipsticks. These chemicals contain trace amounts of naturally occurring metals, such as lead. Lipsticks get their colors from a variety of pigments titanium dioxide and red shades. Both organic and inorganic pigments are employed. Crème lipsticks contain more waxes than oils. Sheer and long lasting lipsticks contain more oil, while long lasting lipsticks also contain silicone oil, which seals the colors to the wearer's lips. Glossy lipstick contains more oil to give a shiny finish to the lips. Lipstick is made from grinding and heating ingredients. Then heated waxes are added to the mix for texture. Oils and lanolin are added for specific formula requirements. Afterwards, the hot liquids poured onto a metal mold. The mixture is then chilled. Once they have hardened, they are heated in flame for half a second to create a shiny finish and to remove imperfections.[5]

Evaluation of Lipsticks

1.Softening point

Lipstick was placed with protruded salve in the flat bottom tube. Thermometer was fixed through a cork in such a way that the bulb of the thermometer just touched the lipstick salve. The arrangement was inserted into a 1 litre beaker filled with water to a level one centimeter above the upper tip of the lipstick salve. Slowly water bath was heated while stirring so that temperature rises at a rate not exceeding 2oC/ min. When the temperature reached about 45oC, the temperature was raised at the rate of 1oC/ min. The temperature, the salve starts bending and losing its shape was recorded as the softening point.

2.Melting point

Take both ends open glass capillary tubes. Introduce into each 5 capillary tubes a sufficient amount of the lipstick, about 10 mm high and allow the tubes to stand for the appropriate time and at the prescribed temperature in capillary tube apparatus. The temperature at which the substance beings to melt in the capillary tube is taken as the melting point. Repeat the operation 3 times using other 4 capillary tubes and calculate the result.

3.Breaking load test

Lipstick container was firmly fixed with protruded salve into a screw type of chuck so that the assembly was perfectly horizontal. Burette was adjusted just above the lipstick salve. Marking was made at a distance of 1.5 cm from the base of the salve where the lipstick salve sits in salve holder. The aluminum container was weighed along with hook and suspended. On this 1.5 cm mark, water was released from the burette into the aluminum container till the salve breaks. Burette reading was added with the mass of the suspended container gives the breaking load of the lipstick.

4.Pay off test

The apparatus consists of constant speed electric motor of power 180 watts attached to gear arrangement, which pulls the strip of paper from a roller onto another roller fixed on platform through a support. A slot arrangement having a cylindrical tube of 4 cm length and 1.7 cm diameter is also fixed on the platform. The top portion (approx 1 cm) of the lipstick salve was chopped off using a sharp blade. Remaining portion of the salve was rubbed on a piece of paper and there by the end portion was made perfectly flat. Constant speed motor was run and the time required for pulling out 100 cm of the paper length was determined. The

lipstick was inserted in the slot arrangement so that the flattened slave portion rests on the surface of

the paper strip. A load of 50g was placed on the top of the lipstick. Constant speed motor was started and with the help of stopwatch 100 cm length of paper was allowed to run. Lipstick after rub off was weighed. The length and breadth of the lien drawn on the paper strip was measured.

Pay-Off (g/cm2) = (M1-M2)/ Lx B

Where, M1 = Mass of the lipstick before the test M2 = Mass of the lipstick after the test
L = Length in cm of the line drawn on paper strip B= Breadth in cm of the line drawn on paper strip

5.Penetrometer test

Lipstick was melted to 70oC and molded in stainless steel tube. It was alloed to set for 24 hrs. After setting the lipstick rod was removed from the cast and cooled to 25oC. The molded lipstick rod was placed horizontally on the penetrometer platform. The penetrometer needle was adjusted so that it just sits on the surface of the molded lipstick rod. The needle attachment was released and the penetrating reading was recorded. Penetration on several points on the surface of the lipstick was determined and the average of all such determinations reported in micrometer.

6.Freedom from grittiness

Approximately 0.5 g of lipstick paste was taken and spread on butter paper on a HMHD sheet. The paste was tested by pressing it along the length by a finger for presence of any hard and sharp edged abrasive particles which would be distinguished readily. The material was free from hard and sharp edged particles.

7.Perfume stability test

Perfume stability can also be assessed by storing lipsticks were tested after 30 days and to record the fragrance.[6]

8.Surface anomalies test

This test is for determining thesurface defects, such as no formation crystals on surfaces, no contamination by moulds and fungi.[7]

9.Solubility test

Dissolved the lipstick in various solvents to observe the solubility.

10. Aging stability test

Stored the products in 400C for 1 hour and observing various parameters such as bleeding, crystallization of on surface and application characteristics.[8]

Defects in Lipstick Formulation

Sweating

It is the most common problem of lipstick formulation due to high oil content or inferior oil binding. It may rise in any climate or temperature rang.

Bleeding This refers to the separation of colored liquids from the waxy base.

Streaking

A thin line or band of a different colour or a substance appears on the finished product.

Moulding Related Problems

Laddering

Lipstick does not look smooth or homogenous after congealing and setting but instead has a multi-layered appearance.

Deformation

This is a molding problem where the shape of the lipstick looks deformed. It is noticeable and appears on both sides of the lipstick.

Cratering

This appears in split moulding and it shows up flaming when stick develops dimples.

Mushy Failure

This is a problem in which the central core of the lipstick lacks structure and breaks.[9]

CONCLUSION

This review highlights the materials, waxes used for the preparation of lipstick formulations. The review also mentions the evaluation parameters for lipstick. Hence the use of natural ingredients is step towards healthy cosmetics and which can be widely utilized by the women with great pleasure.

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