

PALM-BASED LIPSTICK WITH PEARL POWDER

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Pearls are formed inside the shells of oysters. Oysters and other shell-forming molluscs make a special substance, called *nacre* (pronounced NAY *kur*) that lines the insides of their shells. This smooth lining is called the *nacreous layers*, or *pearly layer*, and it is often lustrous. It is formed by cells from a fleshy body organ called the mantle. When a foreign substance, such as a bit of shell or a tiny parasite, enters the body of the mollusc, the mantle cells begin to work. They cover the invading substance with thin sheets of nacre. They build successive circular layers of nacre until the foreign body is enclosed in the shell-like substance, forming the pearl. The layers are made up of little crystals of a mineral substance called aragonite, a form of calcium carbonate. They are rather soft, absorb and reflect light (Diversified Medical Resource).

Pearl powder was used in ancient China by empresses and women in high society as face

make-up. When taken internally, it resulted in improved complexion, softer skin and a more youthful appearance. Since then, pearl powder has been used as a formula to impart firmness and diminish lines and wrinkles (Diversified Medical Resource; Vanniya Sriangura, 2002).

Edmond Fremy (1855) reported that the pearls contain minerals and calcium carbonate. These are interspersed by a matrix of amino acids called conchiolin. According to Charlotte Jensen, Juvena and La Prairie of Switzerland, an international skin care brand, the conchiolin is composed of amino acids that act as natural moisturizers and can help replenish the skin's own amino acids that are lost over time. Furthermore, it can support the production of collagen and enzymes (Vanniya Sriangura, 2002). Besides, other compounds are also found in pearl as shown in *Table 1*.

Pearl powder is commercially available. Herba Al-Nabawiy Enterprise is interested to incorporate pearl powder into a range of cosmetic products including liquid foundations as its specialty. On 28 January 2003, an exclusive

TABLE 1. COMPOUNDS IN PEARL POWDER

Compounds in pearl powder				
Vitamin B complex	Polysaccharides	Calcium	Magnesium	Zinc
Selenium	Silicon	Titanium	Strontium	Copper



agreement to formulate the cosmetic products was signed between MPOB and Herba Al-Nabawiy Enterprise. This paper reports the technology of incorporating pearl powder into premixed palm-based lipstick formulations containing 57% palm-based materials and they are branded as intended to be J Pearl Lipstick and J Pearl Lip Gloss.

J PEARL LIPSTICK EVALUATION

The amount of palm-based materials that can be incorporated into the lipsticks with acceptable characteristic taste on application is about 57% (Zahariah, 2001a). Besides taste, the performance of a lipstick can be evaluated using several tests such as softening point, dropping point, lipstick hardness, lipstick breakage, humidity and heat test (Zahariah, 2001b). These are normally compared to a control, which is a commercial sample (COM).

Fives shades of colour were produced and coded from HAN1 to HAN 5. Their physical properties were compared with COM. The softening and slip melting point were found to be lower than the COM (Table 2). The breaking point for HAN1 to HAN 4 was comparable to COM. HAN5 showed high breaking point and heat test but with acceptable hardness. Low in heat test was found in HAN3 and HAN4 but HAN1 and

HAN2 were comparable to COM. No sweating is shown in all lipsticks.

The lipsticks are available in five shades to reflect personality, occasion and fashion trend. All the shades are suitable for all age groups (Figure 1).

UNIQUE CHARACTERISTICS OF J PEARL LIPSTICKS

- Incorporates 57% of palm-based materials;
- Contains natural moisturizer and vitamin B complex (Diversified Medical Resource; Vanniya Sriangura, 2002); and
- Produces good quality lipsticks (de Navara, 1975).



Figure 1. J Pearl Lipstick and J Pearl Lip Gloss.

TABLE 2. PHYSICAL PROPERTIES OF J PEARL LIPSTICK

Evaluation	HAN1	HAN2	HAN3	HAN4	HAN5	COM
Softening point (°C)	47.8	47.9	49.2	46.8	51.0	56.0
Slip melting point (°C)	56.9	60.2	60.7	58.4	60.1	61.0
Breaking point (s)	< 15	<15	<15	< 15	> 15	<15
Heat test (stick drop or distort)	180 min	195 min	45 min	25 min	205 min	180 min
Humidity*	*nsb	nsb	nsb	nsb	nsb	nsb
Lipstick Hardness (mm)	11.3	9.9	10.6	15.9	10.7	10.0

Note: * nsb = no sweating and bleeding.

J PEARL LIP GLOSS

Like lipstick, lip gloss consists of a mixture of waxes, oils and pigments. The major difference is gloss and transparent coverage. The lip gloss manufactured is identical to lipstick with the key differences being higher oil to wax ratio and lower level of pigment. The pigment ranges from 0% to 5%. The J Pearl Lip Gloss is a colourless stick that is specially formulated so that it can be used widely by men and women of all ages (*Figure 1*). Inorganic sunscreens for UVA and UVB protection have also been incorporated into the lip gloss, thereby enhancing the functionality of the sticks. The profile of J Pearl Lip Gloss in comparison with COM is as shown in *Table 3*.

The J Pearl Lip Gloss was coded as LG1 (lip gloss). Its physical properties were compared with COM. The softening and dropping point of LG1 were found to be lower when compared to COM (*Table 3*), while the heat test result was comparable. After three months storage, both lip glosses were free from sweating and bleeding.

TABLE 3. PHYSICAL PROPERTIES OF LIP GLOSSES

Evaluation (properties)	LG(1)	COM
Softening point (°C)	56.1	63
Dropping point (°C)	57.1	62
Heat test (stick drop or distort)	55 min	45 min
Humidity test	*nsb	nsb

Note: *nsb = no sweating and bleeding.

UNIQUE CHARACTERISTICS OF J PEARL LIP GLOSS

- Contains 59 % of palm-based materials;
- Contains natural moisturizer and vitamin B complex (Diversified Medical Resource; Vanniya Sriangura, 2003);
- Has SPF 6; and
- Produces good quality sticks (de Navara, 1975).

REFERENCES

de NAVARA, MG (1975). *Lipstick - The Chemistry and Manufacture of Cosmetic*.

DIVERSIFIED MEDICAL RESOURCES. Formulated in USA.

THE WORLD BOOK ENCYCLOPEDIA (1990). World Book Inc., a Scott Fetzer company, Chicago.

VANNIYA SRIANGURA (2002). Power of pearls. *Bangkok Post*, 18 October 2002.

ZAHARIAH, I (2001a). Palm-based lipsticks. *MPOB TT No. 121*. MPOB, Bangi. 2 pp.

ZAHARIAH, I (2001b). Roselle lipsticks and Roselle lip protector. *MPOB TT No. 161 and 162*. MPOB, Bangi. 2 pp.

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