

**UNIVERSITI TEKNOLOGI MARA**

**A STUDY ON THE PHYSICAL CHARACTERISTICS OF  
LIP BALMS FORMULATED WITH VARIOUS  
COMBINATION OF THE NATURAL BUTTERS**

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**Dissertation submitted in partial fulfilment of the requirements for  
the degree of**

**BACHELOR OF PHARMACY(Hons.)**

**2013**

## ACKNOWLEDGEMENT

Alhamdulillah, all praises to Allah for the strength and His blessing in completing this thesis. First and foremost, I would like to express the deepest appreciation to my supervisor Mr Tommy Julianto Bustami Effendi for the continuous support of my research for his patient, motivation, enthusiasm and immerse knowledge. His guidance and contribution in stimulating suggestions and encouragement helped me to coordinate my project especially in writing this report. Besides, special thanks to my co-supervisor, Dr Khuriah Bt Abdul Hamid for her cooperation and involvement during my research. Both of them helped me a lot and I truly appreciate their good deeds.

I would also like to acknowledge with much appreciation to laboratory staffs, Ms. Noor Meliza Bt Jamil and Mrs. Intan Syazwani Bt Mohd Ali, who assessed and taught me to use all required equipment and gave the necessary materials to complete my research. Their co-operation and support during the laboratory works is greatly appreciated.

A special thanks goes to my fellow lab mates, Nur Syuhada Bt Mohd Sharip, Nur Qatrunnada Bt Mohd Sukhairi, Nurul Husna Bt Basirun, Nur Amirah Bt M.Bakri, Siti Nor Diana Bt Khairuddin and Nur Sakinah Bt Hasnan, who helped me during my research and gave suggestion to complete my research.

Last but not least, I would like to thank my parents, Azmi Bin Shapie and for their unconditional support, both financially and emotionally throughout my study. To those who indirectly contributed in this research, your kindness means a lot to me.

Thank you very much.

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## **ABSTRACT**

This research was conducted to study the physical characteristics of the lip balms formulated with various combination of natural butters namely Shea butter, Cocoa butter and Mango butter. The study was carried out to get information on the lip balm formulations based on the combination of natural butters that can suit the customer's acceptance. The study was done based on the physical characteristics of the lip balms measured by two types of analysis which were texture analysis by TA XT Plus Texture Analyzer and sensory analysis by panel acceptance test. The physical characteristics that were measured by TA XT Texture Analyzer were hardness, brittleness and stiffness by Penetrometer Test and Cantilever Rig Test. The sensory analysis evaluated four types of attributes which were spreadibility, hardness, tackiness and smoothness. In this study, six lip balm samples were formulated with different proportion amount of natural butters with constant amount of the beeswax and oils. There are Cocoa butter, Shea butter, Mango butter, combination of Cocoa and Shea butter, combination of Cocoa and Mango butter and combination of Shea and Mango butter lip balms. The reference sample was bought from the market to be used to make a comparison with the lip balms that has been formulated. Based on the physical characteristics, the Shea and Mango butter gave good physical characteristics compared to Cocoa butter. Thus, the combination of the Shea and Mango butter in lip balm formulation became the most preferable lip balm by the panels among other formulations.

**Keywords:** natural butters, physical characteristics, texture analysis, sensory analysis

# CHAPTER 1

## INTRODUCTION

### 1.1 Background of study

Generally, the main uses of the lips cosmetics are to enhance the beauty and appearance of the lips especially to the woman by adding colour and creating the lips to become more symmetrical. The main types of lip cosmetics that are available in the market including lip stick, lip balm and lip gloss which are slightly different to each other. Other types are lip liner and lip plumper. The ways on how to apply and use the lips cosmetics should follow the correct techniques in order to get the desired outlook (Nordmann, 2007).

The lips cosmetics history started off in early 1880's, Dr.Fleet, who is a physician and pharmacological tinkerer was invented a lip stick called Chap Stick. Chap Stick was a handmade product that only wrapped in tin foil and was sold locally. However, the sales was not achieve the target thus did not have much success. In 1912, John Morton was bought the rights to the product for \$5. Mrs Morton, his wife tried to modify the Chap Stick by melting the Chap Stick mixture on the kitchen stove and poured the molten mixture through a small funnel into brass tubes. The rack was moved to the porch for suitable temperature to cool the lip stick