

UNIVERSITI TEKNOLOGI MARA

CHARACTERISATION OF COSMETIC CREAMS PREPARED BY
HOT MIXING TECHNIQUE AND COLD MIXING TECHNIQUE

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Dissertation submitted in partial fulfillment of the requirements for degree
of Bachelor of Pharmacy (Hons.)

2013

ACKNOWLEDGEMENT

In the name Allah, the most gracious and the most merciful, Alhamdulillah, I am deeply indebted to my supervisor, Mr Tommy Julianto who has supported me throughout my research. My heartfelt gratitude also goes to Dr. Khuriah whose assistance and guidance has smoothen my lab work and thesis writing throughout the research. I would like to thank Faculty of Pharmacy, UiTM for providing all the highly technology equipments to complete my research. Many thanks to my lab companions who always willing to cooperate, discuss and exchange information to smoothen our lab works. I would like also to thanks Miss Noor Meliza Jamil and Master students who guided and assisted us on how to operate equipments. Finally, I would like to convey my special thanks to my parents whose patience and love enabled me to complete this work.

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ABSTRACT

Mixing process is one of the most important steps in formulating creams or emulsions. Creams were formulated using hot mixing technique and cold mixing technique. Hot mixing technique involves incorporation of heat while cold mixing not. These two mixing techniques were subjected to two formulations of creams. Emulsifiers used in first formulation include Olivem and Oliwax while NOVEMER EC-2 polymer was used in second formulation. Both types of creams were then subjected to some tests to compare their physical characteristics. Stability of creams were tested using Lumifuge Stability Analyser to determine the shelf life. Rheology of creams was tested using PHYSICA MCR Rheometer using oscillatory frequency sweep test and shear stress test. Droplets size and uniformity was tested using Malvern Mastersizer. Last but not least, texture of the creams also being analysed using TX-AT Texture Analyser using back-extrusion method. Cold mixing technique was found to give good stability and droplet size with NOVEMER EC-2 emulsifier, better elasticity and texture with or without NOVEMER EC-2 polymer. Besides, cold mixing was found that it is not time consuming and energy safe.

CHAPTER 1

INTRODUCTION

1.1 Background of study

Cosmetic are the care substances used to enhance the odour or appearance of the human body. Generally, they are mixtures of chemical compounds, some being derived from natural sources but many being synthetic. The manufacturing and usage of cosmetic products increase drastically nowadays. One of most common cosmetic products being used is creams (Schneider et al., 2005).

Pharmaceutical and cosmetic preparations for the treatment of skin conditions and skin care are usually in the form of emulsions. This dosage form must be stabilized by the addition of emulsifying agent because it is thermodynamically unstable. Emulsified systems range from lotions having comparatively low viscosity to creams which are more viscous. The pharmaceutical term “emulsion” is usually used to indicate internal use preparation. Emulsions for external use are most time given a different title, e.g. lotion and cream (Christopher & Dawn, 2008).

Emulsion is a liquid dispersion consisting of two immisible liquid phases, one which is dispersed phases, dispersed as fine globules through the other phase which is