CHAPTER V
CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

In this experiment, castor oil and sunflower oil were used as the oil phase to form microemulsion. The pseudo-ternary phase diagrams was construct to study the phase behavior by direct observation. The phase diagram consisted of water, various surfactant/co-surfactant ratio and vegetable oil blend at ambient temperature (25±2 °C). It was found that the polarity of surfactant affects water solubilization in the system. The higher polarity, the more water soluble in microemulsion. The results shown that the microemulsion system composed of 3:7 castor oil and sunflower oil ratio, fatty alcohol with 7EO of alcohol ethoxylate surfactant and water could form a single phase and stable microemulsion successfully in absence of ethanol as a co-surfactantat ambient condition.

The water solubilization in microemulsion system was investigated through many parameters. The increment of water content, resulted in increase to viscosity and zeta potential value in the system. In addition, the suitable microemulsion for utilizing as make up remover composed of 3:7 castor oil and sunflower oil ratio, fatty alcohol surfactant, with 7 moles of EO, and water (7 %v/v) because it has the highest water content value, small droplet size, and highest cleansing efficiency.

From the findings of this study, the key factors for a single phase microemulsion are surfactant structure, the surfactant/co-surfactant and ratio of oil mixture as significant parameter to formulate water-based microemulsion, thus can be a useful application in cosmetic industries

5.2 Recommendations

In order to formulate oil-base microemulsion for, such as, cosmetic application. The further work should be carried out on the formation, phase behavior and cleansing efficiency at varios temperature and compare the results with doing at ambience temperature.