

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

This work aimed to reduce NaCl concentration in the detergency process and correlation the microemulsion formation at low salinity with detergency performance by using mixed surfactants. The mixed surfactant of 0.5 wt% ADPODS, 5 wt% AOT and 3 wt% Span 80 was selected to do the detergency experiments because it forms Winsor's type III microemulsion with motor oil at the lowest optimum salinity at 2 wt% w/v.

From the detergency results, the oil removal in the first rinsing step was found to be as high as that in the wash step. In the wash step, the ultralow IFT causes the spreading effect. The remaining oil on the fabric is further remove in the rinse step since the spreading effect is reduced by increasing IFT leading to detachment of oil droplets. In addition, the amount of rinsing water affected the oil removal of each rinse step but did not affect the overall oil removal. Moreover, it was found that two times of rinse are sufficient for detergency process.