



CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

In this research, the adsorption and dispersion of talcum powder in different surfactant solutions were investigated. The results can be concluded that surfactant solutions can enhance the dispersion stability of talcum powder as compared with in absence surfactant. Surfactant adsorption at solid-liquid interface can modify the dispersion stability by changing electrostatic repulsion, and the steric forces between the particles. In the effect of surfactant concentration can be concluded that the dispersion stability of talcum powder increased with increasing surfactant concentration because increase in surfactant adsorption on surface lead to increase repulsive force. Furthermore, effect of solution pH concluded that solution pH at low surfactant concentration affected on dispersion of talcum powder but at high surfactant concentration slightly affected on dispersion due to completely adsorbed on surface of talcum powder and insignificant effect of solution pH on surfactant adsorption.

SDS surfactant (anionic surfactant) adsorbed with the highest adsorption density on the negative charge surfaces of talcum powder, leading to increase negative electrical zeta potentials that resulted in the highest dispersion stability of talcum powder. Adsorption of CTAB surfactant (cationic surfactant) changed the negative charge surfaces of talcum powder to positive charge surfaces with increase positive electrical zeta potentials that can stabilize talcum powder to disperse. AE7 surfactant (nonionic surfactant) adsorbed on talcum powder with hydrophobic interaction, it does not affect on the electrical zeta potential, but steric effect of surfactant adsorbed on surface can enhance the dispersion stability of talcum powder.

In general, cleaning agent for the cleaning process of slider mainly consists of surfactants. The dispersion stability is expected that related to prevent redeposition on the surface of slider in cleaning agent. The higher the dispersion stability, the lower the redeposition of particle on the solid surface. Thus, in cleaning process,

surfactant provides both functions of detachment talcum powder particles from the surface of slider and the stabilization of the detached particle to prevent redeposition.

5.2 Recommendations

In this research talcum powder which is chemical grade was selected as a model of cosmetic powder, but the cosmetic powder has many compositions. For in real application, the cosmetic powder using by worker should be selected to study in further study. Moreover, the efficient of surfactant should be studied to understand the mechanism of surfactant to remove particle from the surface.