

## CHAPTER V

### CONCLUSION

From this study, the effect of base oil type, water content, saponification rate and surfactant on properties of calcium grease can be concluded as follows:

Base oil type does not affect to grease's consistency stability, dropping point, water washout resistance and fibers structure, but affect to grease's appearance. Calcium grease prepared from naphthenic oil and mixed base oil of naphthenic and paraffinic in ratio N:P; 80:20 and 70:30 are smooth, whereas, the one prepared from N:P ratio; 60:40 was slightly rough and the one prepared from paraffinic oil is very rough and grainy. Therefore, paraffinic oil is not proper for preparing calcium grease and proper ratio of naphthenic oil to paraffinic oil is 70:30 because of naphthenic oil is more expensive than paraffinic oil.

Water contents do not affect to the calcium grease's consistency stability, dropping point and water washout, but it affects to grease's fiber structure and appearance. If calcium grease has a lot of water, it will have strong fiber structure. Whereas, calcium grease has a small of water, it has not strong fiber structure but will be clearer than grease with a lot of water. Therefore, the proper water content must not be at least 0.54% (8% water content addition).

Saponification rate does not affect to calcium grease's the consistency stability, dropping point, water washout and appearance.

Nonionic surfactant (1-3%) affects the calcium grease has more smooth appearance, on the other hand, it affect the grease's dropping point will be lower and also structure will be unstable. Therefore, surfactant adding is not proper for preparing calcium grease.