

CHAPTER V

CONCLUSIONS

The CMC values of SDS/SO mixtures exhibited a negative deviation from ideal values. At the same mole ratio, the mixture CMC values decreased with an increase in water hardness.

The foamability and foam stability of SDS, soap, and their mixtures were found to increase with an increase in concentration up to the CMC and remained unchanged at concentration above the CMC. Soap was found to have lower foamability and foam stability than SDS at concentration below the CMC. Above the CMC, its foaming properties were comparable to those of SDS. The foamability of the SDS/SO mixtures was found to be independent of the relative molar ratio of each component. It depended only on the total concentration of the mixtures.

The presence of calcium was found to decrease the foamability and foam stability below the CMC but it had little effect above the CMC. In SDS/SO mixtures, calcium was found to have more pronounced effect in mixtures containing a higher mole ratio of soap.

Qualitatively similar results were obtained for both the Ross-Miles and Mixing methods, but the foams generated by the Mixing method tended to have higher stability especially at concentrations below the CMC.