

CHAPTER I

INTRODUCTION

Anionic surfactant was mainly used in detergent product but its foam can cause problem in many processes. Foam inhibitors or antifoams are added to reduce this problem. Soap (sodium salt of fatty acid) has been used in detergent product as an antifoam (Porter, 1994). It was found that antifoam ability of soap depends on the hardness of water. Soft water has been found to lower the antifoam ability of soap.

Calcium salt of long chain fatty acid has been studied (Peper, 1958). It was concluded that calcium soap precipitate (Ca-SO) causes brittle spot on the foam film making it easier to rupture. However some hydrophobic particles have been found to cause foam rupture by the dewetting mechanism (Aveyard *et al.*, 1994). In this mechanism the contact angle between foam film and particles is believed to play an important role in film rupture. The contact angle must be higher than 90° in order to make film rupture. The objective of this work is to examine the cause of foam rupture in the presence of Ca-SO. In view of this the foaming properties of SDS solution in the presence of Ca-SO were studied, and the contact angle between SDS solution and Ca-SO was determined. The Ca-SO of C8, C12, C14 and C18 alkyl chain length were use in this study.