

1.INTRODUCTION

Alkyl aryl sulfonates were introduced in 1950's. Today, alkyl aryl sulfonates are the largest class of synthetic detergents. Alkyl aryl sulfonate is used as surfactant material for the detergents. These alkyl aryl sulfonates hold the first place in world markets on account of their excellent properties and relatively low cost of production. Because of their low price this group is extensively used in both the home and industry. Their stability and soil suspending power is not as good as sulfated fatty alcohols. But by adding sodium carboxymethyl cellulose the suspending power can be increased. Alkyl aryl sulfonates come under the type anionic surfactants. These sulfonates ionize in water to give a negatively charged organic ion.

The surfactants of synthetic detergents perform the primary cleaning and sundering of the washing action. The cleaning process consists of

- (1) thoroughly wetting the dirt and the surface of the article being washed with the soap or detergent solution.
- (2) Removing the dirt from the surface &
- (3) Maintaining the dirt in a stable solution or suspension.

This alkyl aryl sulfonate accounts for some 40 percent of all detergents used throughout the world. The main source of alkyl aryl sulfonate is the petroleum industry. As the name implies these products are based on aromatic compounds combined with an aliphatic chain bound to the aromatic nucleus.

The aromatic nucleus is usually benzene, but occasionally it is naphthalene, toluene, xylene or even phenol. Carbon atom in R may vary from 12-16 for alkyl aryl sulfonates.

Until the mid 1960, this largest of synthetic surfactant class was most prominently represented by tetrapropylenebenzenesulfonate(TPS). It was found that branched chain present in TPS prevents the compound from undergoing efficient biodegradation.:thus ,means were developed to replace it by more biodegradable straight

chain derivatives. Thus linear alkylbenzene sulfonate was developed which showed the effective performance.

The manufacture of alkyl aryl sulfonates by sulfonizing and neutralizing the alkylates is easily handled by soap makers who wish to enter the field of synthetic detergents and to make special mixtures for selected application.