GENERAL INTERODUCTION

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Crude fats obtained from the industrial wastes including (***Gawafa Seeds)*** can be successfully used to prepare a variety of fatty derivatives. Most of these extracted fat are non-edible due to increasing acidity with time by the effect of lipase enzyme in seeds. However, contrary to this enzymatic synthesis of medium- chain glycerides (**MCG**) from capric acid and glycerol was studied using enzyme from ***Candidrrugosa*** [1].

Fatty acids and their derivatives play an important role in the chemical industry because they are used as raw materials for a wide variety of industrial products like, textile, paints, rubber, cosmetics, food, pharmaceuticals and surfactants. The production of fatty acids from non-edible oil resources upgrades them to be suitable for the manufacture of all types of surfactants and other products. All organic surfactants comprise a specific character, in their molecular structure. The molecule must contain a portion which has affinity to oil (lypophilic), where as the opposite end of the molecule, at the same distance has an attraction for water or aqueous solutions (hydrophilic). This ability within the same molecule will be a dual affinity for substances of entirely different natures, such character gave these substances surface active property in quite dilute solutions. This function is done to the tendency of the molecules to concentrate at interfaces between the solvent and a gas, solid or other immiscible liquids.

From this phenomenon, the term of surface active agents or surfactants was derived. At the boundaries of the solvent, the molecules are oriented in such that; the hydrophobic hydrocarbon chain or "tail" of the molecule is directed towards the hydrophobic or oily phase and the hydrophile or

polar "head" is directed or embedded into the gas or polar phase. This property leads to the ability of these materials to reduce surface tension, to cause foaming, and to exhibit other unique properties. Therefore, surfactants find utility in many fields, the principle use being as detergents, wetting agent, dispersing agents and floating agents. Consequently, they are widely incorporated in house-hold cleaning products and in such diverse applications as agricultural sprays, cosmetics, floatation, foods, emulsifiers, lubricants, leather manufacture, inks, synthetic elastomer production and oil recovery operations.

The following is a concise review of literature covering some important aspects of synthetic surface active agents, sulfated oils, sulfated monoglycerides; would present the necessary knowledge on the concerned subject. It is observed that, the acids obtained by hydrolysis of vegetable fats are largely saturated or unsaturated containing more than 18 carbon atoms. In our work, the fat extracted from ***Gawafa seeds*** partially hydrolysed by lipase enzyme to the corresponding partial glycerides, where; the amount of free acids increased gradually by time, as followed up by its acid values. The pancreatic lipase effects partial hydrolysis of triglycerides in a highly selective manner: acyl groups attached to the 1- (α-) and 3- (α -) hydroxyl groups of the glycerol moiety are hydrolyzed rather than those attached to the central (2- or β-) hydroxyl group[2,3]. In 1955 ***Desnuelle sevary et.al*** [4], and ***Mattson and coworkers*** [5] subjected a number of natural fats to hydrolysis with pancreatic lipase and determined the composition of the acids, in the isolated 2-mono-glycerides. There after, a new chemical or, more strictly, biochemical means of solving the problem of glyceride structure was achieved.