Biosurfactants
Biosurfactants are amphiphilic compounds produced on living surfaces, mostly on microbial cell surfaces or extracted extra cellularly and contain hydrophilic moieties that confer the ability to accumulate between fluid phases thus reducing surface and interfacial tension at the surface and interface respectively [Karnath, 1999]. Surface active agents/biosurfactants can improve the bioavailability of hydrocarbons to the microbial cells by increasing the area at the aqueous hydrocarbon interface. This increases the rate of hydrocarbon dissolution and their utilization by microorganism [Gerson, 1993].

General Classification of Biosurfactants
Surfactants can be classified according to the nature of the charge on individual polar moiety. Anionic surfactants are negatively charge usually due to a sulphonate or sulphur group. Non-ionic surfactants lack ionic constituent and the majority of all non-ionics are polymerization products of 1,2 opoxyethano. Cationic surfactants are characterized by a quaternary ammonium group which is positively charged lastly, amphoteric surfactants have both positively and negatively charged moieties in the same molecule [Van Ginkel, 1989]. Biosurfactants can also be grouped in to two categories namely, low molecular mass molecules with lower surface and interfacial tensions and high molecular mass polymers, which bind tightly to surfaces [Rosenberg and Ron 1999]. Examples of low molecular mass molecules are rhamnloipids [Lang and Wullbrandt 1999, Cohen and Exerowa, 2007] Sophorolipds [Devila et al. 1997]. Whilst food emulsifiers [Sheperd et al. 1995], and biodispersan [Rosenberg 1993]. Are some of the examples of high molecular mass-polymers. Various microorganisms are known to produce specific kind of biosurfactants. This depends on mainly the molecular composition of the type of biosurfactant.
produced for instance, *P. aeruginosa* DS 10-12 kg was used to produced rhamnolipid [Rahman et al. 2002a,b,2003], sophorose lipid by *Torulopsis bombicola* and *Bacillus subtilis* ATCC2132 which was used by [Davis et al. 2001] to produce surfactin [Kosaric 1992] classified biosurfactants based on their structure namely, hydroxylated and cross linked fatty acids, polysaccharide lipid complexes, glycolipids, lipoproteins lipopeptides, phospholipids and complete cell surfaces on the other hand [Biermann et al. 1987] group biosurfactants as glycolipids, lipopetides, phospholipids, fatty acids, neutral lipids polymeric and particulate compounds.

**Application of Biosurfactant**

A number of applications of Biosurfactants have been researched in to and published, The enormous market demand for surfactants is currently met numerous synthetic, mainly petroleum based chemical surfactants. These compounds are usually toxic to the environment and as well as been non-biodegradable. It has become necessary that tightening environmental regulations and increasing awareness for the need to protect the ecosystem have effectively resulted in an increasing interest in biosurfactants as possible automates to chemical surfactants. [Banat et al. 2000, Benincasa, 2007] The worldwide production of surfactants amounted to 17 million metric tones (t) in 2000 (including soaps) with expected future growth rates of 3-4% year globally and 1.5-2% in the EU. [Whalley 1995] Industrial applications of surfactants are classified according to how they are applied. These are surfactants used in detergents and cleaners (13%), in chemical processes (10%), in cosmetics & pharmaceuticals (10%), in the food industry (3%), in agricultural (2%) and in others (8%) There is huge role of biosurfactants in bioremediation [Kosaric 2001] used as food additives [Bloomberg 1991] Biosurfactants and CO₂ emissions [Patel 2004]