

Novel applications of Food Grade antimicrobial Lipids

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Abstract. With the rise of a health conscious population and antibiotic resistance prevailing as a major global health issue; this study investigates the bioactive properties of various edible fats, lipids and fatty acids. The tailoring of a microbicidal lipid derived formulation thereby offers industries a natural anti-microbial as well as satisfying public demands. The efficacy of long-chain fatty acids, Oleic (C18:1) and Linoleic (C18:2) acid, and medium chain Capric (C10.0) acid were evaluated on the growth of *Streptococcus mutans*. *S. mutans* is one of the primary etiological agents associated with the onset of dental caries which is considered to be an oral health epidemic in industrialized countries. Results of the screening process found a considerable difference in the antimicrobial activities of the tree fatty acids. Linoleic acid showed a more potent antimicrobial effect towards *S. mutans* in comparison to Oleic acid. Capric acid showed sustained and effective inhibition at higher concentrations. Incorporation of these compounds into commercially available dental hygiene products could further aid in the prevention of oral diseases and infections.