

ABSTRACT**ENZYMATIC TRANSESTERIFICATION WITH LIPASES IMMOBILIZED ON
HYDROPHOBIC RESINS IN WATER SOLUTIONS**

Disclosed is an enzymatic batchwise or continuous process for the production of fatty acid alkyl esters (FAAE) for use in the biodiesels, biofuels, food and detergent industries and a system therefor. The process utilizes lipases immobilized on a hydrophobic resin mixed with a fatty acid source and an alcohol or alcohol donor in the presence of an alkaline or mild alkaline aqueous buffer, or in the presence of water or aqueous solution. The production process for fatty acid alkyl esters is carried out by transesterification or esterification simultaneously or sequentially. The biocatalyst activity is maintained with no significant activity losses in multiple uses and also avoids the accumulation of glycerol and water by-products or other hydrophilic compounds on the biocatalyst.

Figure no. 15