Production of liquid biofuels from renewable resources

This article is an up-to-date review of the literature available on the subject of liquid biofuels. In search of a suitable fuel alternative to fast depleting fossil fuel and oil reserves and in serious consideration of the environmental issues associated with the extensive use of fuels based on petrochemicals, research work is in progress worldwide. Researchers have been re-directing their interests in biomass based fuels, which currently seem to be the only logical alternative for sustainable development in the context of economical and environmental considerations. Renewable resources are available globally in the form of residual agricultural biomass and wastes, which can be transformed into liquid biofuels. However, the process of conversion, or chemical transformation, could be very expensive and not worth-while to use for an economical large-scale commercial supply of biofuels. Hence, there is still need for much research to be done for an effective, economical and efficient conversion process. Therefore, this article is written as a broad overview of the subject, and includes information based on the research conducted globally by scientists according to their local socio-cultural and economic situations.

Keyword: Lignocellulosic substrates, Biodiesel, Second generation biofuels, Agricultural residues, Microbial-oils, Third-generation biofuels, First-generation biofuels, Biomass, Algal-biofuels, Butanol, Bioethanol, Biofuels

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