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Comparative study on the synthesis of biodiesel using different raw materials through basic heterogeneous catalysis

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Recent cases of contamination presented in Mexico City remind us of the urgency to find alternative transport fuels of the population given the poor quality of public transport in general and the large amount of emissions they generate. An alternative is biodiesel that can be obtained from animal fats or vegetable oils and produces fewer emissions compared to conventional diesel. This research was carried out for the synthesis of biodiesel using raw chicken fat and castor oil as raw materials; using potassium hydroxide catalyst supported by alumina. Experimentation consisted of performing the transesterification reaction, varying the times of this order to determine the influence of the time variable in the conversion efficiency from fatty acid to methyl esters. The percentage of liquid fat obtained from the raw chicken fat was 43.60% and castor oil was purchased from the market. In each reaction it was considered a molar ratio alcohol/feedstock 6:1 and added 1% by weight of catalyst to fat or oil used. The gas chromatography analysis indicated that the conversion efficiency was 41% with chicken fat and with castor oil was concluded that there was a lower efficiency. The maximum yield of the reaction was 69%.

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Promotion and implementation of bioenergy for a better environment: A mini review

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There is strong scientific evidence that the average temperature of the earth's surface is rising and this may be attribute to increased concentration of carbon dioxide (CO_2), and other greenhouse gases (GHGs) in the atmosphere as released by burning fossil fuels. One of the chief sources of greenhouse gases is burning of fossil fuels. Biogas from biomass appears to have potential as an alternative energy source, which is potentially rich in biomass resources. In the present study, current literature is reviewed regarding the ecological, social, cultural and economic impacts of biogas technology. In this communication an attempt has been made to give an overview of present and future use of biomass as an industrial feedstock for production of fuels, chemicals and other materials. However, to be truly competitive in an open market situation, higher value products are required.

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