

**CHEMICALLY MODIFIED BIOCHAR FOR BIODIESEL
PRODUCTION**



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ABSTRACT

Biodiesel is gaining much attention as an alternative for the increasing demand for fossil fuels. To increase the rate of reaction, homogenous catalysts are still used commercially to make biodiesel, which causes separation and waste neutralization issues and needs the use of costly refined oil as a feedstock. Modern heterogeneous catalysts have many remarkable and tunable features such as non-corrosive, easy to separate, recyclable, high porosity, and large surface. Rice husk based biochar is a carbonaceous material made from the thermochemical conversion of biomass. It can be chemically modified with treating acid solutions or alkali solutions. Acid treated Rice husk based biochar has more surface area and pore volume, compared to alkali treated Rice husk based biochar. Nanotechnological synthetic protocols can aid in the design and modification of catalyst surfaces to produce biodiesel and to respond to the activity of heterogeneous catalysts. The alkali treated biochar can use more times than the acid treated biochar. However, both catalysts derived from rice husk have good catalytic performance in biodiesel production.

Key words: Rice husk based biochar, Acid treated, Alkali treated, Catalyst, Biodiesel

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