

Produksi Biodiesel dari Minyak Jelantah Menggunakan Katalis Heterogen Cangkang Bikicot (*Achatina Fulica*) dengan Metode Pencucian *Dry Washing* (Biodiesel Production from Used Cooking Oil Using Heterogeneous Catalysts shells of snails (*Achatina fulica*) with Dry Washing Method)

Zainul Arifin

*Renewable Energy Engineering Study Program
Engineering Department*

Abstract

Biodiesel is an alternative fuel from renewable sources with the composition of fatty acids from vegetable oils or animal oils. Biodiesel production from used cooking oil was conducted to determine the effect of heterogen catalyst of snail shell that used on a transesterification reaction with dry washing method for the yield and quality of biodiesel. The study was designed using Rancang Acak Lengkap (RAL) with two factors, the concentration of catalyst (K): (6, 7 and 8%) and the concentration of magnesium silicate (M): (1 and 1.5%). The parameters analyzed include biodiesel yield, viscosity, density, acid number, flash point, cloud point, water content and heat value. The results showed that the highest yield of 63% was obtained from treatment of the catalyst concentration 6% and magnesium silicate 1% with the quality of biodiesel: viscosity of 5.692 mm² / s, density of 867.8 kg / m³, the number of acid 0.605 Mg-KOH/Kg, a flash point of 160 oC, 12 oC cloud point, the water content of 0.08% and a heat value of 41.379 MJ / Kg.

Keywords : Biodiesel, Catalyst Heterogenous, Snail Shell, Dry Washing