

Pengaruh Katalis Homogen (H₂so₄ Dan Naoh) Dan Heterogen (Cao, Dan Mgo) Dalam Pembuatan Biodiesel Berbahan Minyak Jelantah

Yuli Hananto,STP, MSI (minithesis counselor)

Moch Juang Fikri Dhikrulloh
Renewable Energy Study Program
Department of engineering

Abstract

The research was conducted to determine the best catalyst in making biodiesel from used oil using the transesterification reaction method, the catalysts used in this study were homogeneous (H₂SO₄, NaOH) and heterogeneous (CaO, MgO) catalysts. in the process of making biodiesel. Based on the results showed the results of biodiesel using NaOH catalyst has a yield of 75.27% the value of the density of 861 kg / m³,the acid number of 0.4 mg-KOH / g, visicosity of 5.48 cst, cetane number amounted to 43.32 , methyl ester content of 92.92% and a calorific value of 47.65 MJ / kg, for the catalyst H₂SO₄ has a value yield of 65.14%, the density of 801 kg / m³,the acid number of 1.6 mg-KOH / gram, visicosity of 1.25 cst, cetane number of 42.95, methyl ester content of 162.43% and calorific value of 47.97 MJ / kg, for CaO catalyst has a yield value of 75.04% the density of 811.2 kg / m³,the acid number of 0.7 mg-KOH / g, visicosity of 1.17 cst, cetane number amounted to 43.46, levels of methyl esters of 117.79% and a calorific value of 48.24 MJ / kg, while for MgO catalyst has a yield of 52.45% the value of the density of 769.2 kg / m³,the acid number of 0.7 mg-KOH / g, visicosity bag of 1.02 cst, cetane number of 42.89, methyl ester content of 117.60% and heating value of 48.12 MJ / kg. according to SNI 7148: 2015 standards, the best catalyst in this study is the NaOH catalyst.

Key words: biosiesel, catalyst, transesterification