EFFECT OF CATALYST IN VOLUME PERCENT YIELD BIODIESEL FROM STEARIN BY TRANSESTERIFICATION PROCESS

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ABSTRACT

Use of fuel oil is increasingly high, but the problem is not in line with the production of fuel oil which is increasingly lower, so to anticipate and meet the fuel needs of the growing diesel engine, it requires a search and research on alternative fuels. To slow and reduce dependence on petroleum fuels is one of them is the use of biodiesel fuel. Biodiesel is a fuel alternative to petroleum. The use of biodiesel can be blended with petroleum diesel (diesel). Biodiesel is generally easy to use, is biodegradable, nontoxic, and free of sulfur and aromatics. Making biodiesel at this research as a form of anticipatory problem. Research on effects of the volume of catalyst in the manufacture of biodiesel by transesterification process that has been done to produce optimum conditions just as the use of stearin as much as 500 ml, catalyst volume of 25 ml and 175 ml using transesterification temperature between 60-65°C for one hour so that the obtained yield 65.42%, density 0.875 g/ml, pH 6.95, water content 0.014%, flash point 179^{o}C, Calorific Value of 6318 cal/g and cetane number of 64.5. This shows that the more volume of catalyst and methanol is added to the product yield will be higher but the temperature and time used must match the type of solvent and catalyst when the transesterification.

Key Word : Biodiesel, Transesterification, Stearin, Catalyst