

## **Transesterification of Palm Oil with NaOH Catalyst Using Co-solvent Methyl Ester**

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**Abstract :** Palm oil is very potentially for turned in to biodiesel. In the process of making biodiesel with transesterification conventional required a long time because the reaction takes places in two phase. Adding the co-solvent can be a solution to makes the reaction time shorter. Methyl ester can be used as a co-solvent to makes the reaction in single phase between the oil and methanol so decrease the reaction time in biodiesel process. Methyl ester as a co-solvent is not need to separate after the last process because methyl ester is the main product of the reaction. The purpose of this research is to find out the effect of addition of co-solvent methyl ester and catalyst NaOH to produced the biodiesel from palm oil which has the good standard. According to the result was obtained that the best results of this process achieved at mass of co-solvent of 15% and reaction time of 20 minutes with mass of FAME 28.06 gr. Methyl ester density and acid value regards with SNI 04-7182-2006.

**Key words :** palm oil, transesterification, co-solvent, methyl ester, biodiesel.

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