Calcium Carbide Residue **(CCR) Sebagai Katalis Basa Heterogen Pada Reaksi Transesterifikasi Minyak Kesambi** ***(Schleichera Oleosa L.)*** (*Calcium Carbide Residue* (CCR) *as Heterogeneous Base Catalyst on Trans-esterification Reaction of Kesambi's Seeds Oil (Schleichera Oleosa L.*))

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ABSTRACT

Generally, biodiesel production using transesterification reaction with heterogeneous base catalyst. One of the heterogeneous base catalysts that able to use as a catalyst is clacium carbide residue (CCR). This research is about to compare the effect of calcium carbide residue's amount as catalyst and stirring duration on kesambi's seeds oil trans-esterification reaction and to identify the complete characteristic of kesambi's seed biodiesel. The biodiesel's production is using esterification-esterification and transesterification (EET) method. The kind of alcohol that used in this research is methanol in amount of 20% for esterification's reaction and methanol in amount of 75% for trans-esterification reaction. The catalyst amount variations are 2, 4, and 6%, while the stirring duration that used in this research are 60 and 120 minutes. Further, biodiesel which have the biggest quantity is tested on quality test and the results on each parameters are; the density number is 872.38 kg/m^3*, the viscosity number is* 6,67 cSt*, the acid number is* 0,756*, flash point number is* 187^{o}C*, cloud point number is* 1^{o}C*, the measure of water is 0,1%, the amount of sulfur is 0,05%, iodine's number is 42,31, the cetane index is 71,24, and the heating value is 42,31 Mj/Kg.*

Key Word **:** *Kesambi's seeds oil, Amount of calcium carbide residue catalyst, Stirring duration.*