

PENGARUH WAKTU REFLUKS DALAM PRODUKSI BIODIESEL DENGAN KATALIS HIDROTALCIT TERMODIFIKASI KITOSAN

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ABSTRAK

Biodiesel is included in renewable energy which is the most important potential energy source. In its production required a catalyst to speed up the reaction, a catalyst which is best used is a heterogeneous catalyst obtained through 400 °C hydrotalcite calcination stage for 2 hours and mixed with chitosan in to acetic acid the coagulated overnight with NaOH, then the catalyst was characterized using XRD to determine its catalyst phase, and FTIR to identify functional groups on the catalyst. In the transesterification reaction of oil and methanol a ratio of 10:50 mL catalyst was added as much as 2 grams with variation of 0,5, 1, 2, and 3 hours after refluxs, added aquadest and HCl 50:10 mL ratio and separated from glycerol using separating funnel, biodiesel the results were analyzed using gas Chromatography-Mass Spectro (GC-MS). So the best yield of biodiesel reached 109,51% with refluxs time of 0,5 hour.

Key word: heterogeneous catalyst, chitosan, hydrotalcite, biodiesel.