THE MASS EFFECT OF CALSIUM CARBONATE AS HETEROGENOUS CATALYST AGAINTS PRODUCT OF METHYL ESTER ON TRANSESTERIFICATION REACTION OF WASTE COOKING OIL ASSISTED COSOLVENT ACETONE

ANISA NUR AZIZAH
No. Mahasiswa: 14612068

ABSTRACT

Research on the effect of calcium carbonate as heterogeneous catalyst on transesterification reaction of waste cooking oil. This study aims to determine the weight of optimum heterogeneous catalysts in the transesterification reaction of waste cooking oil. The heterogeneous catalyst used in this study was calcium carbonate with variation of 0.5 gram, 1 gram and 3 gram. This research used methanol by mole comparison 1:12 waste cooking oil to methanol and acetone as cosolven by mole comparison 1:4 to methanol. Transesterification process carried out for 2 hours using strirrer. Results of biodiesel production were analyzed using GC-MS instrument. The results showed that the optimum ratio of heterogeneous catalyst in addition by mass comparison 1:20 calcium carbonate to methanol with total methyl ester of 100%, including methyl palmitate and methyl oleate. Based on the results of this research indicates that this research can use calcium carbonate as a heterogeneous catalyst.

Keyword: waste cooking oil, transesterification reaction, heterogeneous catalyst, calcium carbonate, cosolvent.