THE WEIGHT EFFECT OF CALCIUM OXIDE AS A HETEROGENEOUS CATALYST UNDER ACETONE COSOLVEN IN A TRANSESTERIFICATION REACTION OF WASTE COOKING OIL

ABSTRACT

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A study has been conducted on the effect of heavy calcium oxide heterogeneous catalysts on the transesterification reaction og waste mite for producing methyl esters. This study studied the preparation of methyl ester with several variations of the given heterogeneous catalyst as well as the transesterification process in the preparation of methyl esters. Transesterification process using waste oil with variation of catalyst addition of 1gram, 3 gram and 5 gram with methanol and cosolvent acetone aid without heating for 2 hours. The results of methyl ester production were analyzed using GC-MS instrument. The results showed that the optimum catalyst variation was by adding catalyst as much as 3 gram with total methyl ester as much as 100%. The implication of this research is the production of methyl ester can be done by using heterogeneous catalyst of calcium oxide at room temperature, so that methyl ester production become more efficient and cheaper.

Keywords: waste cooking oil, methyl ester, transesterification, catalyst heterogeneous, calcium oxide.