World Academy of Science, Engineering and Technology
International Journal of Civil and Environmental Engineering
Vol:14, No:10, 2020

Production of Biodiesel Using Brine Waste as a Heterogeneous Catalyst

Authors : Hilary Rutto, Linda Sibali

Abstract : In these modern times, we constantly search for new and innovative technologies to lift the burden of our extreme energy demand. The overall purpose of biofuel production research is to source an alternative energy source to replace the normal use of fossil fuel as liquid petroleum products. This experiment looks at the basis of biodiesel production with regards to alternative catalysts that can be used to produce biodiesel. The key factors that will be addressed during the experiments will focus on temperature variation, catalyst additions to the overall reaction, methanol to oil ratio, and the impact of agitation on the reaction. Brine samples sources from nearby plants will be evaluated and tested thoroughly and the key characteristics of these brine samples analysed for the verification of its use as a possible catalyst in biodiesel production. The one factor at a time experimental approach was used in this experiment, and the recycle and reuse characteristics of the heterogeneous catalyst was evaluated.

Keywords : brine sludge, heterogenous catalyst, biodiesel, one factor
Conference Title : ICAEEWM 2020 : International Conference on Advances in Environmental Engineering and Waste Management
Conference Location : Dubai, United Arab Emirates
Conference Dates : October 19-20, 2020