Variasi Komposisi Katalis Abu *Cocopeat* Dan Waktu Transesterifikasi Terhadap Kualitas Biodiesel Dari Limbah Pabrik Pengalengan Ikan.

(*Variation of Composition of Abu Cocopeat Catalyst and Transesterification Time to Quality of Biodiesel from Fish Canning Plant Waste*)

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ABSTRACT

Biodiesel is one of the environmentally friendly alternative to diesel fuel for diesel engines. Biodiesel used in this research is the result of oil-based biodiesel waste fish cannery by using heterogeneous catalysts in the form of cocopeat ash. This research was conducted at the laboratory of renewable energy engineering at the end of April to July 2017. This research was designed using RAL or Completely Randomized Design with 2 factorials with 4 repetitions with first factor is catalyst composition 3%, 5%, 7% and second factor is reaction time length 60 minutes and 120 minutes. The result of the research showed that the change of density, viscosity, acidity and FFA value in fish oil before and after purification. The highest yield obtained from A3B2 treatment is catalyst composition of 7% and time of 2 hours with the value of rendemen of 81%. From the test results as for some parameters that meet the standard SNI-04-7182-2015, among others, density value of 876.3 kg / m^3, flash point of 160^oC, iodine number of 16.36 gr / 100gr and calorific value of 47.47 Mj / kg.

Keywords: *biodiesel, catalyst composition, reaction time length*