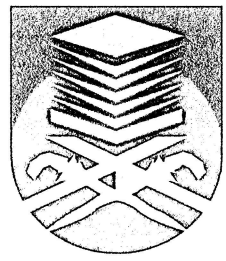

THE EFFECT OF CENTRIFUGATION AT 14000 RPM ON CRUDE PALM OIL CHARACTERISTICS

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"I declared that this thesis is the result of my own work except the ideas and summaries which I have clarified their sources. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any degree"

Signed: .....

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ABSTRACT

Today, people around the world are more concern about alternative energy to replace with fossil fuel due to limited source and environmental effect. There are many different forms in which alternative energy is available for example solar energy, wind mill, nuclear energy, hydroelectric and others. From statistics, Malaysia is the largest exporter of palm oil in the world follows by Indonesia. This was due to Malaysia is rich with oil palm tree. Oil palm trees are process into crude palm oil and redefine to cooking oil and bio-diesel. From previous research, pure crude palm oil also can be used in diesel engine. Unfortunately, it will cause clogging on the fuel line because pure crude palm oil has very high viscosity. The research is to know the effect of the characteristics of crude palm oil using centrifugation technique at 14000 RPM. These characteristics then will compare with diesel fuel characteristics according to Malaysia Standard (MS 123). The experiment to identified palm oil characteristics is done in December 2009 to March 2010. From the experiment it were shows that only viscosity will effect from centrifugation process where kinematic viscosity decreasing from 64.O593cst of pure CPO to 40.5153cst for the centrifugation of 14000 RPM speed at room temperature 27^0C. While others characteristics that also being test like density, flash point, and energy contain remain constant. Viscosity shows decreasing trend due to rising of the temperature while separation between olein and streian increased.

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