BIODIESEL PRODUCTION FROM RUBBER SEED OIL BY SUPERCRITICAL METHANOL METHOD

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Abstract

During this time, Indonesian people just rely on energy consumption for motorcycle power from fossils. In fact, the source of fuel reserve is less and will be gone in the next years. Decreasing on the amount of fuel reserve following with decreasing oil production till reached 10% per year. This limiting condition needs to serious handling, because of fuel consumption going on rising up from year to year.

The purpose of this research is to studying the effect of reaction temperature, reaction time and methanol with oil molar ratio on yield of biodiesel produced.

Variables used in this research are fixed variable (operation pressure 85 bar), changed variable (reaction temperatures are 300 °C and 350 °C; reaction times are 3, 5, 7, and 9 minutes; and methanol with oil molar ratio are 12:1 and 42:1) and responding variable (yield of biodiesel produced).

From this research result can be concluded that the higher molar ratio methanol and rubber seed oil, the higher reaction temperature and the longer reaction time, so yield biodiesel produced is higher. While the best condition to achieve the higher yield biodiesel in supercritical methanol method at reaction temperature is 350 °C, reaction time is 9 minutes and methanol with oil molar ratio is 42:1.

Keyword: rubber seed oil, biodiesel, supercritical methanol method