SAMPLE OBJECTIVES FOR A PROPOSAL (CEAT)
ENG 10, SECTIONS C AND T
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(Lecturer)

1.2. General Objectives of the Study

Generally, the research aims to conduct a parametric study on the production of methyl ester (biodiesel) from mechanically extracted Jatropha oil by transesterification with methyl alcohol catalyzed by sodium hydroxide.

1.3. Specific Objective

Specifically, the study aims to accomplish the following:

1. Determine the effect of varying oil to alcohol (methanol) molar ratio (1:7, 1:8, 1:9) on the yield;
2. Determine the effect of varying oil to catalyst (NaOH) molar ratio (1:0.1, 1:0.2, 1:0.3) on the yield;
3. Select a favorable oil to methanol to catalyst molar ratio;
4. Obtain a time profile for the transesterification process using the selected oil to methanol to catalyst molar ratio, and;
5. Obtain a quantitative information about the composition of the final product by thin layer chromatography using the selected oil to methanol to catalyst ratio.

1.4. Scope and Limitation

The study will be limited to the production of the crude and esterified Jatropha oil extracted using mechanical press only. The reaction will only utilize sodium hydroxide as the catalyst and methanol as one of the reactants. The study will also be limited to the above-mentioned ratios for the determination of the best combination of the reactants in biodiesel production.

1.5. Time and Place of Study

The first part of the experiment will be done at the Department of Chemical Engineering Analytical Laboratory and Thesis Laboratory, College of Engineering and Agro-Industrial Technology, University of the Philippines Los Baños, Laguna from June to September 2009.

(mdgdizon/81810)