

Production of Biodiesel from Melon Seed Oil Using Sodium Hydroxide as a Catalyst

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Abstract : The physiochemical properties of the melon seed oil was studied to determine its potentials as viable feed stock for biodiesel production. The melon seed was extracted by solvent extraction using n-hexane as the extracting solvent. In this research, methanol was the alcohol used in the production of biodiesel, although alcohols like ethanol, propanol may also be used. Sodium hydroxide was employed for the catalysis. The melon seed oil was characterized for specific gravity, pH, ash content, iodine value, acid value, saponification value, peroxide value, free fatty acid value, flash point, viscosity, and refractive index using standard methods. The melon seed oil had very high oil content. Specific gravity and flash point of the oil is satisfactory. However, moisture content of the oil exceeded the stipulated ASRTM standard for biodiesel production. The overall results indicates that the melon seed oil is suitable for single-stage transesterification process to biodiesel production.

Keywords : biodiesel, catalyst, melon seed, transesterification

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