

## RICE BRAN OIL BIODIESEL

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### A B S T R A C T

The search for cheap alternative sources of vegetable oil, the need to convert agricultural wastes to wealth and the desire to solve waste disposal problems has lead to the extraction of oil from rice bran. The oil was extracted using a soxhlet extractor operated at 60°C and then transesterified using methanol as reagent and sodium hydroxide as catalyst. No pretreatment with an acid was necessary as the free fatty acid was a low 0.12%. The oil and biodiesel were characterized according to American Society for Test and Materials (ASTM) and the European Norms (EN) protocols. The results obtained shows that the densities and viscosities of the oil reduced after transesterification, while flash points and cetane number of the samples increased. Most of the properties are within the limits of ASTM D6751-02 standards for biodiesel thus making it a suitable alternative fuel for diesel engines.

**Keywords:** Rice bran oil, transesterification, biodiesel, characterization.