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INVESTIGATIONS ON FUEL PROPERTIES OF TERNARY MIXTURE OF ETHANOL, BIO DIESEL FROM ACID OIL AND PETROLEUM DIESEL TO EVALUATE ALTERNATE FUEL FOR DIESEL ENGINE

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ABSTRACT

Ethanol and biodiesel are two potential alternative fuels and ethanol can be used with biodiesel to extend the availability of diesel. In this work Acid oil, a byproduct of vegetable oil refineries has been investigated as a source of biodiesel as it is economical and readily available. Fuel properties of biodiesel produced are compared with standard diesel fuel. Blends of ethanol, biodiesel and diesel are prepared maximizing the biodiesel content to 60%. In order to ascertain the applicability of blends as fuel, properties such as density, kinematic viscosity, calorific value, flash and fire point, cloud and pour point of stable blends have been determined as per ASTM standards. Cetane index is calculated using four variable equation method. Results suggests that all properties are in accordance with the stipulated standard values of biodiesel.

KEYWORDS: Acid Oil, Biodiesel, Diesohol, Ethanol, Biodiesel, Diesel Stable Blends, Fuel Property Variation