

VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELGAUM



A project Report on

“STUDIES ON ENHANCEMENT OF STORAGE STABILITY OF THE BIODIESEL”

Submitted in partial fulfillment for the award of the degree in

Bachelor of Engineering

In

DEPARTMENT OF MECHANICAL ENGINEERING

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VENKATAGIRIKOTE, DEVANAHALLI, BENGALURU-562 110.
(2012-2013)

Abstract

The energy demand of the world is increasing due to industrialization and ever increasing number of vehicles employing internal combustion engines. Biodiesel is defined as the mixed methyl esters of animal or vegetable oil-derived fatty acids. Biodiesel production has been increasing to meet the increasing energy demand. Proper storing of the produced biodiesel is very essential. Biodiesel has the same fatty acid profile as the parent oil or fat. Due to the fact that many vegetable oils possess a significant amount of fatty acids with double bonds, oxidative stability is of concern, especially when storing biodiesel over an extended period of time. In this project work, biodiesel was successfully produced from non-edible neem oil. The properties of the neem oil are better than the raw oil and are close to the diesel. From the fatty acid analysis, it is observed that the neem oil contains more amounts of unsaturated components. The anti-oxidant of Propyl gallate increases the storage stability of the biodiesel. Hence, Propyl gallate can be used as the anti-oxidant for the neem biodiesel.