

Paper ID: NITETMECH28

## HETEROTROPHIC MICROALGAE A POTENTIAL SOURCE OF BIODIESEL

Jagadevkumar A Patil

Dr. Pravin V.Honaguntikar

### ABSTRACT

The energy demand is growing worldwide. The total energy consumption has increased from 196 EJ(108 joule) in 1973 to more than 350 EJ in 2009 and the tendency is rising.[3] About 80% of this energy is fulfilled from fossil fuels with the green house gas emissions. The reduction of CO<sub>2</sub> emissions in the range of 10-20% by 2020 is internationally specified target (e.g. European union). Currently the fossil resources are not regarded as sustainable and questionable from the economic, ecology and environmental point of views. Because of the many advantages over the conventional energy resources, the production of biodiesel has attracted much attention in recent years. Biofuels and bioproducts produced from plant biomass would mitigate global warming. The sourcing of feedstocks, including the impact it may have on biodiversity and land use and competition with food crops. Algae have recently received a lot of attention as a new biomass source for the production of renewable energy. Many countries are now doing extensive research on algae. Biodiesel feed stocks derived from microalgae and macroalgae have emerged as one of the most promising alternative sources of lipid for use in biodiesel production. Micro algae are more suitable as biofuel because the oil content in the microalgae are more compared to the macroalgae. Particularly Heterotrophic Microalgae are more suitable as biodiesel source because of their fatty acid profile and oil content.

**KEY WORDS:** Biodiesel, Transesterification, Microalgae, Heterotrophic, Lipid.