

Characterization Testing of Fish Oil as a Basic Material for Biodiesel

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ABSTRACT

Biodiesel is an environmentally friendly and renewable alternative fuel derived from vegetable or animal oils. One potential source of biodiesel is fish oil, particularly from waste produced by the fish processing industry. This study aims to evaluate the physical and chemical characteristics of fish oil as a raw material for biodiesel production. The parameters tested include density, viscosity, free fatty acid (FFA) content, and flash point. The purpose of the testing is to determine the extent to which fish oil characteristics meet the quality standards required for biodiesel feedstock. The results show that fish oil has promising potential as a biodiesel base material, although pretreatment steps are needed to reduce the high FFA content. These findings are expected to serve as a foundation for the more efficient and sustainable utilization of fish oil waste.

Keywords: biodiesel, fish oil, physical characteristics, free fatty acids, waste