

Experimental of Oxygenated Fuel on Diesel Engine: Fuel Properties, Performance and Emission

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Abstract:

The main purpose of the study was to characterise the effects of diesel, biodiesel blends B5M10 and B10M10 and emulsion fuels B5M10E3 and B10M10E3 as fuels for the impact on particulate matter emission. Engine tests have been performed to obtain results of engine performance, gas emission and particulate matter with various cycles. Excel analysis methods were used to analyze the data obtained. The B5M10E3 produces lower emission results than B10M10E3 as biodiesel fuel increases the combustion temperature. In conclusion, biodiesel blends can actually reduce emissions of particulate matter and gas emissions compared to diesel but increase emissions. Therefore, the emulsion fuel B5M10E3 and B10M10E3 can be the best alternative fuel for the future.

Keywords: Fuel properties; diesel; biodiesel; emulsion; particulate matter

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