Influence on the performance and emissions of an automotive Euro 5 diesel engine fueled with F30 from Farnesane

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Description
The effects of using a 30% by volume blend of a renewable fuel, called Farnesane, and fossil diesel in a small Euro 5 displacement passenger car diesel engine have been evaluated in this paper.

Farnesane is a 15-carbon long molecule that can be obtained from the fermentation of biomass-derived sugars (such as sugar cane, amidaceous and cellulosic crops), which are first fermented to Farnesene and then hydrogenated to Farnesane. Farnesane has similar chemical and physical properties to diesel fuel, as far as its viscosity and density are concerned. Its higher Lower Heating Value (LHV) and cetane number mean that the biofuel has better combustion properties, and the lack of aromatics and sulfur could contribute to a decrease in smoke and particulate matter emissions.

Tests were carried out on a small displacement Euro5 automotive diesel engine for passenger car applications. The impact that the …