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Relationship between properties of diesel and response of cetane improver on non-aromatic and aromatic fuels used in a single cylinder heavy duty diesel engine

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Ignition improver additives are used to improve the ignition quality, or reduce the ignition delay; i.e. the time between when fuel is injected and time when combustion start is different this difference in time is minimize by additive is called Cetane Improver (CN). The CN is the most widely accepted measure of ignition quality. to get desired value of CN some additive are used hence ignition improvers are usually characterized by the fact that at what extent they can increase CN. By increasing CN we have two benefits that it helps smoother combustion and lower emissions. Fuel properties are always considered as one of the main factors to diesel engines concerning performance of cetane improver. There are still challenges for researchers to identify the most correlating and non-correlating fuel properties and their effects on cetane improver. In this study to derive the most un-correlating and correlating properties. In parallel, sensitivity analysis was performed for the fuel properties as well as to effect on performance of cetane improver.

Biography

Shailesh N Gadhvi is working as Deputy Manager in Quality Control Department at Nayara Energy Ltd. (initially known as Essar Oil Ltd.), India. He has completed his Bachelor Degree in Chemistry (1996) and a Master Degree in Chemistry (1998) from Sardar Patel University, Vallabhvidyanagar - India. He has completed his PhD on Petroleum Diesel.

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