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(57) Abstract :

The present invention relates to preparation of water in diesel emulsion using different POE-SE surfactants together with variable water proportion and to evaluate the effect of the exhaust emission of the diesel engine. To compare the effect of addition of POE-SE surfactant in preparing water diesel emulsion. The test fuel had a composition of water 5–15% w/ w, diesel 94–84% w/w, and surfactant 1% w/w. A simultaneous reduction of NO_x, % w/w CO, and % w/w HC levels was obtained with the use of 1% surfactant. The Results showed that the Combination of surfactants effectively reduced the NO_x emissions at low water contents. Among all the surfactants used, span 20 was observed to reduce all the emissions more efficiently as that of other surfactants.

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