Cow-urine emulsified diesel fuel: preparation, stability, and rheological study for diesel engine application

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Abstract

Water-diesel emulsion fuel has been found as a prominent alternative fuel by various researchers. Alike this technology, cow-urine (Bos indicus urine) emulsified diesel fuel (GMD emulsion) has been explored in this study. Making of homogeneous and stable emulsion is a crucial aspect in this approach while maintaining the diesel standards. Hence, the applicability of this fuel has been examined based on physicochemical properties for diesel engine application. The stability was assessed by creaming index, droplet size, Pdi, and interfacial tension. The minimum droplet size (278 nm) and 0.282