

Structures formed from dodecane, water and alkyl salicylic acid

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Abstract

Additives are added to engine oil to improve certain properties of engine lubrication. In this project, the stability of detergent inhibitor additives, which consist of calcium carbonate particles stabilised by salicylate surfactant, will be investigated. The emulsions formed by dodecane, water and alkyl salicylic acid have been investigated by optical microscopy, confocal microscopy, UV-visible spectrophotometer, surface-tension measurements, environmental scanning electron microscopy and dynamic light scattering. It was found that multiple emulsions were formed and the size of the emulsions can be as large as 100 μm . The reaction rate of emulsion formation seems to be second order in concentration of alkyl salicylic acid.