

Micelle structure and molecular self-diffusion in isononylphenol ethoxylate-water systems

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Abstract

The structure and dynamic properties of micellar solutions of nonionic surfactants of a series of isononylphenol ethoxylates, C₉H₁₉C₆H₄O(C₂H₄O)_nH (where n = 6,8,9,10, and 12), were studied by NMR diffusometry, dynamic light scattering, and viscosimetry. The sizes of the micelles were determined for different surfactants and at different surfactant concentrations. The numbers of water molecules bound by a micelle and by one oxyethylene group of the surfactant were estimated. Copyright © 2013 John Wiley & Sons, Ltd. Sizes of micelles of surfactants C₉H₁₉C₆H₄O(C₂H₄O)_nH (where n = 6,8,9,10 and 12) were determined for different surfactant aqueous concentrations by NMR-diffusometry, dynamic light scattering and viscosimetry. Numbers of water molecules bound by a micelle and by one oxyethylene group of the surfactant were estimated. Copyright © 2013 John Wiley & Sons, Ltd.

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Keywords

dynamic light scattering, micelles, NMR diffusometry, oxyethylated monoalkyl phenols, water molecule binding