

Abstract Submitted
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Kinetics of spreading of surfactant solutions¹ VICTOR STAROV, NINA KOVALCHUK, ANNA TRYBALA, Loughborough University, OMAR MATAR, Imperial College London — Wetting properties of surfactant solutions are determined by adsorption of surfactant at all interfaces involved. Adsorption on liquid/air and liquid/solid interface depends on surfactant chemistry. That is why the lower surface tension does not result automatically in better wetting properties. Spreading of surfactant solutions causes redistribution of surfactant at the interface and in the bulk. As a result surface concentration gradients appear and spreading kinetics is influenced by solutal Marangoni effect. Disjoining pressure, being the driving force of spreading also depends on the local surfactant concentration. Therefore spreading kinetics of surfactant solutions differ considerably from those of pure liquids. The results of experimental study on spreading kinetics of synergetic surfactant mixtures on hydrophobic substrates such as polyethylene and sylanised glass are presented for the two different regimes: complete and partial wetting and compared with the spreading kinetics of a pure liquid in those regimes.

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