

## Characterization of the microenvironments of alkylamidoamine-N-oxide surfactant aggregates by the EPR spin labeling method.

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### Streszczenie

Spin labeling EPR methods were applied to characterize the local microviscosity and micropolarity of micellar aggregates formed by 3-(alkanoylamino)ethyldimethylamine-N-oxides (alkyl = nonyl, undecyl and tridecyl) in an aqueous environment in the temperature range 297–337 K. Four doxylstearic derivatives: 5-doxylstearate methyl ester (5-DSE), 16-doxylstearate methyl ester (16-DSE), 5-doxylstearic acid (5-DSE) and 16-doxylstearic acid (16-DSE) were used as spin probes to monitor mainly the rotational correlation time  $\tau_R$  and the isotropic hyperfine splitting constant  $A_N$ . In the case of anisotropic spectra, the order parameter  $S$  was also determined. The selected probes were found to be sensitive to the microenvironments whereby it was possible to characterize in detail local changes in composition and micelle formation.

### Słowa kluczowe

N-oxide surfactants, Micelle, Electron paramagnetic resonance, Spin probe

### Adres publiczny

<http://dx.doi.org/10.1007/s10953-012-9859-7>

### Strona internetowa wydawcy

<http://link.springer.com>