

ABSTRACT

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Title of Thesis: Surface active compounds and evaluation of its properties

The theoretical part of the thesis is focused on the properties of surfactants, their distribution, and their use. In this part, micelles, critical micelle concentration, methods of its determination and factors influencing it are also characterized.

In the experimental part, the critical micelle concentration (CMC) of two homologous series of quaternary ammonium salts (benzalkonium chlorides and benzoxonium chlorides) was evaluated by a conductometric method. Several parameters (side chain length, temperature, pH) and their influence on the critical micelle concentration value were monitored. Furthermore, the critical micelle concentration of these substances was measured using a Wilhelmy plate to compare the two methods. The relationship between decreasing critical micelle concentration value and increasing alkyl chain length was verified. At the same time, the dependence of CMC on temperature and pH change was verified. Finally, the conductometric method of CMC determination was compared with the Wilhelmy plate method, and their advantages and disadvantages were assessed.