

**INFLUENCE OF THE ADDITIVES OF LOW-MOLECULAR
ALCOHOLS ON THE ADSORPTION OF MIXTURES OF TWEEN AND
SODIUM DODECYL SULFATE AT THE LIQUID-GAS INTERFACE
AND ESTABLISHMENT OF REGULARITIES OF FLOTATION
EXTRACTION OF SURFACTANTS**

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The investigation of the adsorption process of surfactants at an interface with air from individual solutions and mixtures, which contain alcohols, allows to get useful information about the nature of a specified process and can be used to predict the effective extraction of surfactant from dilute aqueous solutions using methods, in which adsorption is a limiting stage. Flotation in particular relates to these methods.

The aim of the researches was to study the influence of low-molecular alcohols additives on the adsorption of nonionic surfactants from individual aqueous solutions and mixtures, which contain anionic surfactant at the liquid-gas interface and to establish regularities of surfactant flotation extraction from diluted mixed solutions with different compositions.

The subjects of researches have been anionic surfactants - sodium dodecyl sulfate; nonionic surfactant - Tween-20, Tween-40, Tween-60, Tween-80 and mixtures of low-molecular alcohols - ethanol and isopropyl alcohol.

The theoretical additive Faynerman-Miller model has been used for analysis of the influence of ethanol and isopropyl alcohol on the surface tension of the individual solutions and mixtures of Tween and sodium dodecyl sulfate.

Application of low concentration of ethyl maximally decreased the surface tension of aqueous solutions of Tween and sodium dodecyl sulfate, and conversely, the low concentration of isopropyl alcohol increased the surface tension of solutions.

Experiments on the surfactant flotation recovery from the mixed aqueous solutions in the presence of low-molecular alcohols have shown that the

effectivity of the process depends on the nature of surfactant and alcohol, solution composition and conditions of flotation.

In the presence of low-molecular alcohols, the surface tension of individual solutions and mixtures of Tween and sodium dodecyl sulfate decreases and depends on the structure of nonionic surfactant, concentration and nature of alcohol and surfactant. The additives of low-molecular alcohols allow not only to increase the degree of extraction of Tween and sodium dodecyl sulfate from mixed aqueous solutions, but also to increase the rate of flotation, that promotes the intensification of the extraction process of the investigated surfactants.