

**SOLVATION THERMODYNAMICS OF ORGANIC SOLUTES  
IN LACTATE ESTERS***Magsumov T.I.*Kazan Federal University  
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Lactic acid esters are low-toxic, biodegradable, nonflammable substances, the synthesis of which is relatively simple. They are used in the food industry, pharmaceuticals, perfumes, as solvents for nitrocellulose and paints. However, despite widespread use in various fields, their solvation properties, for example, the solubility of different compounds in these solvents, remain practically unexplored.

In the work, the activity coefficients at infinite dilution ( $\gamma^\infty$ ) of various organic compounds in lactic acid esters, ethyl lactate and butyl lactate, were determined by gas chromatographic headspace analysis at 298 K. The obtained values were used to calculate the Gibbs energies of solution and solvation of substances, as well as the capacity ( $k = 1/\gamma^\infty$ ) and selectivity ( $S_{12} = \gamma_1^\infty/\gamma_2^\infty$ ) parameters for various hydrocarbon separation problems. These parameters expand information about the solvation properties of lactic acid esters and make it possible to estimate their use as solvents for various processes.

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