

Experimental High Pressure Vapor-Liquid Equilibria for the Ethane + 1-Propanol, and Propane + 1-Propanol Systems

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In this work, the phase equilibria for the systems ethane + 1-propanol and propane + 1-propanol was experimentally determined. The propane + 1-propanol system was measured to 318.30 K, 324.31 K, and 348.93 K. The system ethane + 1-propanol was measured at 317.59 K, 324.50 K, and 348.68 K, additionally the UCEP, LCEP and LLV line were obtained for this system. The experimental data were obtained using an apparatus based on the static-analytic method [1].

These systems are important because ethane and propane are used as supercritical solvents, and the 1-propanol is a potential cosolvent. The ethane + 1-propanol system has been previously reported in the literature [2,3,4,5], at lower temperatures.

For the propane + 1-propanol system at high-pressure only one reference was found [6] providing data at temperatures higher than in this work.

The vapor-liquid equilibrium data obtained in this work were correlated with the Peng-Robinson equation of state.

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