Measured and Predicted Phase Equilibria for the Ternary Mixtures Containing ETBE at 313.15K

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Studies on phase equilibria of liquid mixtures are of considerable importance for the design of thermal separation process and theoretical understanding the nature of molecular behavior. Oxygenated compounds like methyl tert-butyl ether(MTBE), ethyl tert-butyl ether (ETBE) can all be used as gasoline additives because of their good anti-knocking properties. In this work, isothermal VLE data for the ternary mixtures containing ETBE were measured at 313.15K. Headspace gas chromatography(HSGC) system with SRK equation of state was used for the measuring VLE. The predicted values of the same mixtures were calculated by modified UNIFAC(Dortmund) model.