

# Vapor–Liquid Equilibria of Binary Mixtures Containing 1-Butanol and Hydrocarbons at 313.15 K

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## **Abstract:**

Total pressure measurements made at 313.15 K by the static method for five binary mixtures 1-butanol + heptane, 2,2,4-trimethylpentane, dodecane, cyclohexane, and methylbenzene are presented. Data reduction by Barker's method provides correlations for  $G^E$ , using the four-parameter Margules equation; also the Wilson, nonrandom two-liquid (NRTL), and universal quasichemical activity coefficient (UNIQUAC) models have been used for fitting binary systems. The five investigated mixtures exhibit a positive deviation from ideality. No azeotrope has been detected for 1-butanol + dodecane, and the other systems show positive azeotropy. Good results are obtained in the prediction of total pressure for these systems.