Vapor-liquid equilibria of the 1,1-difluoroethane (HFC-152a) + isobutene system

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Thermodynamic properties of the mixtures such as vapor liquid equilibria are important to decide the optimal compositions of the mixtures and to evaluate the performance of the refrigeration cycles. In this work, isothermal vapor liquid equilibrium data were measured for the 1,1-difluoroethane (HFC-152a) + isobutene system at temperatures from 273.15 K to 348.15 K at 15 K intervals. These experiments were carried out with a circulating-type apparatus with on-line gas chromatograph analysis. The experimental data were correlated well by the Peng-Robinson equation of state using the Wong-Sandler mixing rules.