Isobaric Vapor-Liquid Equilibria for the n-Octane + ethylene glycol monopropyl ether (C3E1) system

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This paper shows isobaric vapor-liquid equilibria (VLE) for the binary system of n-Octane and Ethylene glycol monopropyl ether (C3E1). Alkoxyethanol such as C3E1 has associating groups so that it shows a highly non-ideal phase behavior due to the H-bond interaction. The experiments of this isobaric VLE system were carried out at different pressures for the measurement of the associating fluid mixuture by Fischer VLE 602. In this system, it shows azeotrope and we investigated the correlation for the experimented data using two term virial equation for vapor-phase fugacity coefficients and the three suffix Margules equation, Wilson, NRTL, UNIQUAC for liquid-phase activity coefficients. The results of the experiment shows a good agreement with variety of models.