

Isothermal Vapor-Liquid Equilibrium at 303.15 K for the Ternary Mixture of Di-iso Propyl Ether (DIPE) + 1-Propanol + 2,2,4-Trimethylpentane and their Binary Sub-Systems

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Thermodynamic data at various T, P conditions are needed for chemical process modeling and the development of parameters for thermodynamic models. Recently some oxygen contained ether compounds are considered as gasoline additives. However, the phase equilibria and mixing properties for ETBE, TAME, IPE are very few compare to those of MTBE.

In this work, isothermal vapor-liquid equilibrium(VLE) at 303.15 K for the binary and ternary systems of di-iso propyl ether(DIPE) + 1-propanol + 2,2,4-trimethylpentane were measured with the help of headspace gas chromatography(HSGC). The experimental VLE data were correlated with three gE model equations of Wilson, NRTL and UNIQUAC. All the measured data in this work showed good agreement with the calculated values.