

Isothermal Vapor-Liquid Equilibrium for the Azeotropic Systems {Methyl Tert-Butyl Ether (MTBE) + Methanol} and {Ethyl Tert-Butyl Ether (ETBE) + Ethanol} with Phosphonium-Based Ionic Liquids

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Ionic liquids (ILs) are being extensively evaluated as environmentally friendly alternatives (green solvents) to conventional organic solvents in a variety of industrial processes. Only recently, researchers have focused on the suitability of ILs as selective solvents in the field of separation technology. ILs could be a suitable compound to act either as extracting solvent or as entrainer for the separation of azeotropic systems by means of extractive distillation.

In present work, shift of azeotropic point at 333.15K for the azeotropic systems { MTBE + Methanol} and {ETBE + Ethanol} with phosphonium-based ILs was reported by using headspace gas chromatography (HSGC). The influence of phosphonium-based ILs to azeotropic concentration for above mentioned systems was investigated. The experimental binary VLE data were also correlated with using the Wilson equation.