

Density, refractive index, excess and deviation properties for the systems of ketone+ ionic liquids

정인용, 유수현, 박소진*

충남대학교

(sjpark@cnu.ac.kr*)

The study of thermodynamic properties of the liquid mixture and pure components is very essential in the design of various physical and chemical processes, especially for a new class of substance such as ionic liquids. And the observation of deviation from the ideal behavior for the mixture is relatively easy way to provide information for characterizing the type and magnitude of molecular interactions on mixing.

In this work, the excess and deviation properties, such as the excess molar volumes (VE) and deviation of refractive indices (ΔR) for the binary mixtures, {MEK + [P666.14][Cl] and [P666.14][DCA] and [P666.14][TMPP]}, {MIPK + [P666.14][Cl] and [P666.14][DCA] and [P666.14][TMPP]} were determined at 318.15 K over the entire composition ranges. The experimental data were satisfactorily fitted with the Redlich-Kister polynomial. And Lorentz-Lorenz, Gladstone-Dale, Weiner and Heller mixing rules have been applied for the prediction of refractive indices. Density data of mixtures were estimated according to an expression based on the Lorentz-Lorenz mixing rule.