

Excess Molar Enthalpies, Volumes, and Refractive Indices for the Binary Mixtures of $\{x \text{CH}_3\text{CHClCH}_2\text{Cl} + (1-x)\text{CH}_3(\text{CH}_2)_{n-1}\text{OH}\}$ ($n = 5$ to 7) at $T=298.15$ K and $P=101.3$ kPa

심효원, 김문갑*
경북대학교
(mg_kim@knu.ac.kr*)

The heat of mixing, densities, and refractive indices for the binary systems {1,2-dichloropropane + 1-pentanol, + 1-hexanol, and + 1-heptanol} at $T=298.15$ K and atmospheric pressure were measured over the whole composition range using an isothermal microcalorimeter with flow-mixing cell, using a digital vibrating-tube densimeter, and refractometer, respectively.

The excess molar enthalpies H^E , excess molar volumes V^E , and excess properties of refractive indices n_D^E were calculated from measured heat flux, densities, and refractive indices of pure components and mixtures, respectively. All H^E and V^E values of the binary mixtures are positive while n_D^E values are negative over the whole composition range.

The experimental results of H^E , V^E , and n_D^E were fitted to Redlich-Kister equation. In this work, the experimental excess enthalpy data have been also correlated using thermodynamic models (Wilson, NRTL, and UNIQUAC).