

Excess Molar Properties for Binary Systems of 1,2-Dichloropropane + Diethylene glycol di-alkyl ethers at T=298.15 K and Atmospheric Pressure

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Excess molar enthalpies, densities and refractive indices on mixing were experimentally determined for binary systems of 1,2-dichloropropane + diethylene glycol di-alkyl ethers. The diethylene glycol di-alkyl ethers were: diethylene glycol dimethyl ether, diethylene glycol diethyl ether, and diethylene glycol dibutyl ether. These experimental data (excess molar enthalpies, densities and refractive indices) were measured over the whole composition range at T =298.15 K and atmospheric pressure using an isothermal microcalorimeter with flow-mixing cell, a digital vibrating-tube densimeter and refractometer, respectively.

All excess molar enthalpy, volume and refraction (H_m^E , V_m^E and R_m^E) values for the mixtures are negative for whole composition range.

The experimental results of H_m^E , V_m^E and R_m^E were fitted to Redlich-Kister equation to present the composition dependence of excess properties. The values were also correlated using thermodynamic models (Wilson, NRTL, and UNIQUAC).