Excess Enthalpies of the Ternary Mixture Carbitol + N-Heptane + Cyclohexane

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Glycol ethers are a group of solvents based on alkyl ethers of ethylene glycol or propylene glycol commonly used as solvents and additives. These solvents typically have a higher boiling point, together with the favorable solvent properties of lower-molecular weight ethers and alcohols. Most glycol ethers are water-soluble, biodegradable and only a few are considered toxic. 2-(2-Ethoxyethoxy)ethanol, also known under trade name carbitol, is an industrial solvent and is also commonly used as a fuel system icing inhibitor in jet fuels. It is a clear, colorless, hygroscopic liquid. Structurally it is an alcohol and an ether, with a formula $C_6O_3H_{14}$. Property data of its mixtures with hydrocarbons are very scarce in the literature. This work presents a study on excess enthalpies of mixtures carbitol + n-heptane + cyclohexane at 298.15 K and 313.15 K. Excess enthalpies have been measured with a quasi-isothermal flow calorimeter. The experimental data have been fitted using a Redlich-Kister equation and NRTL and UNIQUAC models. The values of the standard deviation indicate the agreement between the experimental results and these calculated from the equations.

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