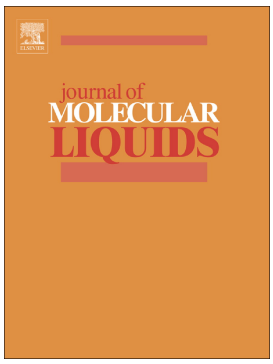

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Sweety Verma, Suman Gahlyan, Manju Rani, Sanjeev Maken

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Excess molar enthalpies of n-alkanol (C_2-C_{10}) with n-decane at 298.15 K: Flory–Treszczanowicz–Benson model

Sweety Verma[a], Suman Gahlyan[a], Manju Rani[b], Sanjeev Maken[a,*]

[a]Department of Chemistry, [b]Department of Chemical Engineering, Deenbandhu Chhotu Ram University of Science and Technology, Murthal-131 039, India

Abstract

Excess enthalpies and excess volume for n-alkanol (C_2-C_{10}) (1) + n-decane (2) mixtures were measured at 298.15 K using flow micro calorimeter. The excess enthalpy for equimolar binary mixtures varies as: propanol ≈ butanol > pentanol > ethanol > hexanol > heptanol > octanol > nonanol > decanol. The Redlich-Kister polynomial was used to correlate the experimental data. The Mecke-Kempter type of association model for alkanol proposed by Treszczanowicz and Benson was applied to predict excess enthalpy and excess volume data of the present systems. The predicted data compared well with the measured excess enthalpy and previously reported excess volume data.

Keywords: excess enthalpy; excess volume; n-alkanol; n-decane; Flory–Treszczanowicz–Benson model.

*Corresponding author. Tel.: +91-94664-51600; Fax: +91-130-2484119; Email: sanjeevmakin@gmail.com