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Commentary concerning “Measurement and correlation of solubility and solution thermodynamics of 1,3-dimethylurea in different solvents from $T = (288.15 \text{ to } 328.15) \text{ K}$ ”

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Abstract

Errors were discovered regarding the published equation coefficients of Zhu and co-workers [J. Chem. Thermodynamics 97 (2016) 9–16] for mathematically describing the solubility behavior of 1,3-dimethylurea in different pure solvents using the Wilson model. Larger differences were found between our back-calculated data and those reported in the authors' published paper. The expression of Wilson model was corrected and the equation parameters were re-regressed. In addition, the thermodynamic functions of mixing such as change of mixing Gibbs energy, mixing enthalpy and mixing entropy of mixing were re-calculated.

Keywords: 1,3-Dimethylurea; Solubility; Wilson model

In a work published in the Fluid Phase Equilibria, Tong and co-workers [1] reported the solubility of 1,3-dimethylurea form I (DMUI) in seven solvents including water, 2-butanol,

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