

热力学

二元液体混合物的过量体积模型

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摘要 按照提出的含醇溶液形成的热力学模型, 采用释放和充入组分间引力势能的方法建立了一个过量体积方程, 表明含醇溶液的过量体积主要取决于组分解缔和它们间交叉缔合引起的焓变以及模型中释放或充入的组分间引力势能. 该方程有良好的通用性, 不仅适用于含醇溶液, 也适用于非含醇溶液. 广泛的检验表明, 它能满意地关联各种二元液体混合物的过量体积随组成变化的实验数据.

关键词 [含醇溶液](#) [二元液体混合物](#) [过量体积](#) [热力学模型](#)

分类号

EXCESS VOLUME MODEL OF BINARY LIQUID MIXTURES

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Abstract

According to the thermodynamic model of formation of the solutions containing alcohol proposed in this work, an equation of excess volume was established by adopting the approach to releasing and charging attractive potential energy between two components. It indicated that the excess volumes of solutions containing alcohol were mainly dependent on changes of enthalpies caused by the dissociation of components and cross-association between them and attractive potential energy released or charged in this model. This equation showed good generality and was not only applicable to the solutions containing alcohol, but also to the solutions not containing alcohol. Extensive test proved that it could be used to correlate experimental data of variation of excess volume with composition for all kinds of binary liquid mixtures satisfactorily.

Key words [solution containing alcohol](#) [binary liquid mixture](#) [excess volume](#) [thermodynamic model](#)

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