

Excess Molar Volumes for constituent binaries and ternary system of DMF+ DBF+ Formamide, NMF+ DBF+ Formamide and DMF+ NMF+ water at 298.15K

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Many investigations on the excess molar properties have already been carried out for binary mixtures, while that of ternary mixtures are not easily available in the literature. Especially, the excess properties for ternary mixtures, required to get insight into the nature and degree of interactions, are quite rare. DMF and NMF are well-known materials that used as selective solvent in the extraction process or extractive distillation. In spite of it, only one excess property is reported for DMF+NMF binary system and no ternary data for DMF+ DBF+ Formamide, NMF+ DBF+ Formamide and DMF+ NMF+ water are found.

In this work, therefore, excess molar volumes at 298.15K for the constituent binary and ternary systems of N,N-dimethylformamide(DMF), N-methylformamide(NMF), DBF(Dibutyl formamide), formamide and water mixture were determined from measured densities by using a digital tube densimeter. The experimental excess molar volumes were correlated using the Redlich-Kister polynomial.