

Phase Behavior and Interfacial Phenomena for various solutions with Equation of state Approach

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A treatment of the phase equilibrium behavior and interfacial phenomena of fluid are presented. This work is conducted through the equation of state model, which is applicable to nonpolar systems as well as to polar systems, to system of small molecules as well as to polymers, to liquids as well as to vapors. This approach can be applied for the estimation of classical thermodynamic properties of pure fluids, such as vapor pressures, orthobaric densities, surface tensions. And this can calculate vapor-liquid, liquid-liquid equilibria of binary mixtures of fluids with large molecular size difference or different types of interactions between unlike molecules. In addition, this can be applied to correlate PVT data for polymer and polymer-solvent data.