Cubic Equation for Binary Mixtures from the Corresponding Second Virial Coefficient Data

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A new cubic equation of state and its mixing rules are presented. The corresponding parameters are calculated from the second virial coefficient data of binary mixtures. The methodology to get the equation of state is presented and applied for some hydrocarbon binary mixtures. The resulting phase equilibrium diagram of binary mixtures are compared to experimental data and, also to the results obtained using other cubic equations of state.