x = mole fraction
z = compressibility factor

Greek Letters

ϵ = minimum of potential function
μ = Joule-Thomson coefficient
ρ = density
ρ^* = defined by Equation (11)
σ = intermolecular distance at minimum potential

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BOOKS

Fluid Phase Equilibria, edited by H. Renon, Elsevier Scientific Publishing Company, Amsterdam and New York, $57.75 for Volume I (in four issues).

There are a number of important characteristics of Fluid Phase Equilibria to justify the appearance of this new journal. First, is that it (unlike Industrial and Engineering Chemistry Fundamentals or the AIChE Journal) is devoted solely to applied thermodynamics, statistical mechanics and phase equilibria. This whole area is one of renewed engineering interest due to the need for physical properties and phase equilibrium data and prediction methods as a result of more stringent pollution standards, tighter design requirements necessary for energy conservation, and the development of synthetic fuels processing and other new technologies. It is also an area in which rapid progress is being made. Second, the editorial policy of this new journal, unlike that of the Journal of Chemical Thermodynamics, is such as to encourage a juxtaposition of the results of experimental and theoretical research, which may lead to more theorists reading about experiments, and more experimentalists reading theory. Next, Fluid Phase Equilibria, unlike Molecular Physics and the Journal of Physical Chemistry, publishes review articles, which should be of interest and value to those concerned with physical properties. The first two such articles, on statistical thermodynamics by T. Boublik and the start of a series on high pressure phase equilibria by I. Wichterle, indicate the diversity of subjects that the editorial policy of this journal permits. Finally, the two issues of Fluid Phase Equilibria which have appeared suggest that it will be a truly international journal, with authors from many countries.

Fluid Phase Equilibria is likely to attract readers and authors from all of the other journals mentioned above, and promises to be a necessary addition to the reading list of physical properties practitioners in industry and at universities. It is unfortunate that the subscription price of Fluid Phase Equilibria will also make it a rather expensive addition.

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Vapor-Liquid Equilibria using UNIFAC, Aage Fredenslund, Jurgen Gmehling and Peter Rasmussen, Elsevier Scientific Publishing Company, Amsterdam and New York, 1977. 380 pages. $59.75.

This monograph treats thoroughly the application of a method for prediction of activity coefficients in multicomponent liquid mixtures of nonelectrolytes at low to moderate pressures. Word of the success of the UNIFAC method has spread rapidly through the chemical-engineering community, and prospective users will find here complete descriptions which readily allow its implementation. All avail-