

Two-Phase and Three-Phase Equilibria in the Systems n-Pentane/Water and n-Hexane/Water; Correlation and Modeling

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Phase behavior in the two systems n-pentane/water and n-hexane/water has been correlated. The whole range of the available data, to the hydrocarbon critical point and above and including the three-phase phenomena, has been examined. The modeling approach involves the use of a cubic equation of state for the two hydrocarbon-rich phases. The hydrocarbon in the aqueous phase has been modeled using Henry's law. The effort is a continuation of earlier work on the phase behavior of all of the lighter hydrocarbons in sodium chloride brines. This simple modeling approach proves to be surprisingly effective in capturing all of the major phenomena with good accuracy.