

High-pressure Phase Behavior of 1-propanol / Carbon Dioxide Binary System

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High-pressure phase behavior data for the binary mixture of 1-propanol with supercritical fluid solvent CO₂ have been measured by high-pressure phase equilibrium apparatus equipped with a variable-volume view cell. The equilibrium lines of the pressure - composition and pressure - temperature are obtained for binary mixture of 1-propanol + CO₂ system at 305.15K, 313.15K, 318.15K, and 323.15K, and from 2MPa to 11MPa. The critical point for the mixture increases as the temperature increases. The experimental results were modeled by the Peng-Robinson equation of state to obtain the optimum values of parameters. The calculated VLE envelopes by the Peng-Robinson equation of state were in a good agreement with the experimental values.