

Measurement of Vapor-Liquid Equilibria for the Binary Mixture of 1,1,1,2,2-Pentafluoroethane (HFC-125) + Propylene (R-1270)

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In this work, isothermal vapor-liquid equilibria data for the binary mixture of 1,1,1,2,2-pentafluoroethane (HFC-125) + propylene (R-1270) at four equally spaced temperatures between 273.15 and 303.15K were measured by using a circulation-type equilibrium apparatus. The experimental data were correlated with the Peng-Robinson equation of state combined with the Wong-Sandler mixing rule. Good agreement between experimental and calculated data was confirmed.

The experimental azeotropic points of this mixture were compared with calculated ones obtained by using the equation derived from the fundamental equation of phase equilibrium combined with NRTL activity coefficient model. The result indicated that there was a small difference between experimental and calculated azeotropic points.