High Pressure-Phase Equilibria of Binary Mixture ; Propane and HFC-227ea

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Basically, VLE data were used to design refrigerant cycle, therefore these data is requisite as a basic thermodynamic data. In this work, vapor-liquid equilibria were measured for binary mixture of propane + HFC-227ea within 273.15K to 313.15K in a circulation type equilibrium apparatus. The experimental data were calculated by PR(Peng-Robinson)EOS used Wong-Sandler mixing rules with combine NRTL excess Gibbs free energy model, PRSV(Peng-Rovinson-De Sants) EOS used Huron-Vidal mixing rules with combine NRTL excess Gibbs free energy model and CSD(Canahan-Starling-De Sants) EOS. Almost all the calculated values with this model give a good agreement with the experimental data and this system exhibit azeotropes.