

Vapor-liquid Equilibria of the Trifluoromethane(HFC-23) + n-Butane System

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Chlorofluorocarbons(CFCs) were regulated due to Montreal Protocol in 1987. So, alternative refrigerant is required. Hydrofluorocarbons(HFCs) have been used as an alternative refrigerant of CFCs. But some of HFCs have banned by Kyoto Protocol because of high global warming potentials(GWPs). By contrast Hydrocarbons have zero ODPs. Thus, mixtures of HFCs and Hydrocarbons have been studied as good candidates of alternative refrigerants. In this study, binary vapor liquid equilibrium data were measured for the trifluoromethane(HFC-23)+ n-butane system from 283.15K to 313.15K. These experiment data were correlated by the Peng-Robinson equation of state using the Wong-Sandler mixing rules involving NRTL model.