

Phase Behavior for 2-Phenoxyethyl Acrylate and 2-Phenoxyethyl Methacrylate in Supercritical Carbon Dioxide

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Phase behavior data are reported for CO₂ + 2-phenoxyethyl acrylate systems at 40 ~ 120 °C and pressures up to 311 bar and for CO₂ + 2-phenoxyethyl methacrylate systems at 40, 60, 80, 100 and 120 °C and pressures up to 305 bar. The solubility of monomers for the CO₂ + 2-phenoxyethyl acrylate and CO₂ + 2-phenoxyethyl methacrylate systems increase as the temperature increases at constant pressure. The CO₂ + 2-phenoxyethyl acrylate and CO₂ + 2-phenoxyethyl methacrylate systems exhibit type-I phase behavior. The experimental results for CO₂ + 2-phenoxyethyl acrylate and CO₂ + 2-phenoxyethyl methacrylate systems were correlated with Peng–Robinson equation of state using a van der Waals one–fluid mixing rule.