

Simultaneous Determination of the Vapor-Liquid Equilibria and Saturation Densities of Carbon Dioxide + Alkanol Systems

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In this work, simultaneous high-pressure vapor-liquid equilibria and saturation densities in the liquid phase of the carbon dioxide + alkanol mixtures were measured using a static-circulation apparatus at (313 and 348) K. The studied systems were carbon dioxide + 1-propanol and carbon dioxide + 1-butanol. The experimental vapor-liquid equilibrium data were measured in a high-pressure view-cell connected on-line to a gas chromatograph (Agilent, GC 6890) via a ROLSI sampler-injector. The equilibrium cell was connected to a thermoregulated Anton Paar densimeter DMA 512P for measuring the simultaneous densities of the carbon dioxide + alkanol systems. A recirculating pump allowed obtaining these densities at the same equilibrium-cell conditions.

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