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Derived thermodynamic properties for the (ethanol + decane) and (carbon dioxide + ethanol + decane) systems at high pressures

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Abstract

Volumetric properties for the binary (ethanol + decane) and ternary (ethanol + decane + carbon dioxide) systems are reported from (313 to 363) K and pressures up to 20 MPa. Compressed liquid densities of both systems were measured in vibrating tube densimeter from (313 to 363) K. ► Excess molar volumes for (ethanol + decane) mixtures are positive. ► The presence of carbon dioxide in the (ethanol + decane) mixture causes negative excess molar volumes.

Keywords

Ethanol; Decane; Carbon dioxide; Density; Vibrating tube densimeter

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