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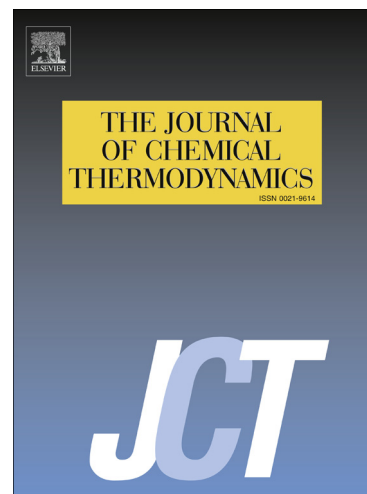
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HYDROGEN SOLUBILITY IN FURFURAL AND 2-PROPANOL: EXPERIMENTS AND MODELING

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ABSTRACT

Production of valuable chemicals from furfural through hydrotreatment requires information of hydrogen solubility in furfural and the most often applied solvent, 2-propanol. This study investigates hydrogen solubility in furfural and 2-propanol at the temperature range of 323 - 476 K and pressure range up to 12.5 MPa. The measured data are compared to prediction with Soave-Redlich-Kwong, Peng-Robinson, and Perturbed-Chain Statistically Associating Fluid Theory (PC-SAFT) equations of state. The most accurate prediction of hydrogen solubility in furfural and 2-propanol was obtained with PC-SAFT.

Keywords: Furfural, hydrogen, 2-propanol, solubility, GLE, PC-SAFT

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