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Concerning the determination and predictive correlation of diffusion coefficients in supercritical fluids and their mixtures

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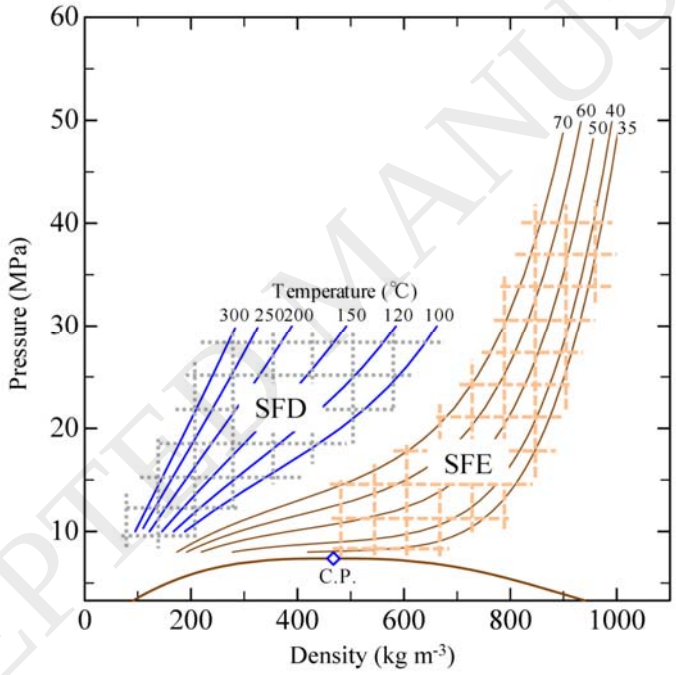
Graphical abstract

Condition ranges for supercritical fluid extraction (SFE) and supercritical fluid deposition (SFD)



Highlights

Diffusion data were mainly measured for supercritical (sc) fluid extraction
New applications for material processing such as sc fluid deposition have been expanding
Existing supercritical fluid diffusion data are insufficient for new applications
The hydrodynamic equation can estimate diffusion in the liquid-like sc region
A method of predicting diffusion coefficients in the gas-like sc region is required

Abstract

Although a large quantity of diffusion coefficient data exist for sub- and supercritical (sc) fluids,