

Measurement of Solubility for Disperse Dyestuffs in Supercritical Carbon Dioxide by Using UV-Visible Spectroscopy

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Solubility of disperse dyestuffs in supercritical carbon dioxide (SCCO₂) is one of the most important factor in determining the efficiency of a supercritical fluid dyeing (SFD) process.

The solubility of disperse dyestuffs in supercritical carbon dioxide was measured using a modified UV-Visible spectroscopy. The disperse dyestuffs are S type and E type. The concentrations were determined in the temperature and pressure ranges from 303.15 K to 403.15 K and 730 psi to 3000 psi. The results were correlated using a MF-NLF equation of state.