

Solubility, Density, and Metastable Zone Width of
the p-dioxanone- Ethyl Acetate, Tetrahydrofuran and Acetone System

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The compound p-dioxanone is used as monomer in the production of poly(p-dioxanone), which have been applied to make biodegradable products, especially surgical devices such as surgical suture, anchors, staples, tacks, clips, plates, screws, and bone fixation devices. Purification of p-dioxanone is also an important step in order to achieve high molecular weight poly(p-dioxanone). Methods for purifying p-dioxanone includes dissolving a crude reaction product containing p-dioxanone in an aliphatic ester solvent, forming crystals of p-dioxanone, and filtering the mixture to recover solids containing crystalline p-dioxanone which is relative pure compared to the crude reaction product. In this work, the solubility and density of p-dioxanone in ethyl acetate was measured over various temperatures. The metastable zone width was measured over cooling rate ranges from 0.01 to 1.0 Kmin⁻¹.