

## GROWTH RATE KINETICS AND DISPERSION FOR D-FRUCTOSE CRYSTALS GROWN FROM AQUEOUS ETHANOLIC SOLUTIONS

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### Abstract

The growth of fructose crystals from aqueous ethanolic solutions was studied using a 1 L seeded batch crystallizer. The growth kinetics were found to be linearly dependent on the relative supersaturation of the crystallizing tautomer ( $\beta$ -D-fructopyranose). The growth rate constant increased slightly with increasing temperature and increasing solvent ethanol content. The growth rates are lower than those for aqueous solutions of comparable supersaturations. Fructose displays significant growth rate dispersion ( $q = 0.35$ ) when crystallized from aqueous ethanolic solutions. The growth rate dispersion is independent of solvent composition and temperature within the range studied, although it is slightly higher than is seen in crystallization from aqueous solutions.