

The kinetics of dissolution of zircon (ZrSiO₄)

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Abstract

The dissolution of amorphous zircon obeys first order kinetics, and, over long periods of time decreases due to precipitation of new phases from solution. The dissolution reaction has an activation energy of 12.8 K cal/mole. Crystalline zircon has low solubility in aqueous solution and methods capable of detecting Zr and Si in solution at concentrations of the order of 0.001 ppb are needed to successfully evaluate the kinetics of dissolution of crystalline zircon.

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