

## Dissolution Leaching Kinetics of Ulexite in Disodium Hydrogen Phosphate Solutions

**Authors :** Betül Özgenç, Soner Kuşlu, Sabri Çolak, Turan Çalban

**Abstract :** The aim of this study was investigate the leaching kinetics of ulexite in disodium hydrogen phosphate solutions in a mechanical agitation system. Reaction temperature, concentration of disodium hydrogen phosphate solutions, stirring speed, solid/liquid ratio and ulexite particle size were selected as parameters. The experimental results were successfully correlated by linear regression using Statistica program. Dissolution curves were evaluated shrinking core models for solid-fluid systems. It was observed that increase in the reaction temperature and decrease in the solid/liquid ratio causes an increase the dissolution rate of ulexite. The activation energy was found to be 63.4 kJ/mol. The leaching of ulexite was controlled by chemical reaction.

**Keywords :** ulexite, disodium hydrogen phosphate, leaching kinetics

**Conference Title :** ICSRD 2020 : International Conference on Scientific Research and Development

**Conference Location :** Chicago, United States

**Conference Dates :** December 12-13, 2020