

عنوان مقاله:

Investigation of Degelling Process of Polymer Gels using Central Composite Design

محل انتشار:

هفتمین کنگره ملی مهندسی شیمی (سال: 1390)

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خلاصه مقاله:

As water shut off treatments with polymer gel applied in oil reservoirs, degelling motivation within a reservoir might be desired. In this work, a hydrogel was prepared by crosslinking of aqueous solutions of a sulfonated polyacrylamide and chromium (III) acetate. In order to investigate the effective factors (gel age, degelling agent/crosslinker concentration ratio, degelling agent/gel weight ratio and crosslinker concentration) and their interactions central composite design, as a most popular form of response surface methodology was used. Among the investigated factors, crosslinker concentration, degelling agent/crosslinker concentration ratio and degelling agent/gel weight ratio were identified as main effects, respectively. The results implied that increase of crosslinker concentration and degelling agent/gel weight ratio caused an increase of degelation time where increase of degelling agent/crosslinker concentration ratio caused a decrease of degelation time. Moreover, degelling agent/gel weight ratio and crosslinker concentration showed strong interactions.

کلمات کلیدی:

polymer gel, degelation time, degelling agent, central composite design

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