中国化学工程学报 2001 9 (2): 162-166 ISSN: 1004-616x CN: 44-1063/R

RESEARCH PAPERS

天然混合羧酸盐ASP复合驱油体系的研究

牟建海, 李干佐, 李英

Key Laboratory for Colloid and Interface Chemistry of State Education Ministry, Shandong University, Jinan 250100, China

收稿日期 修回日期 网络版发布日期 接受日期

摘要 Orthogonal-test-design method has been used to determine the optimal formula by phase behavior and interfacial tension studies, respectively. The effect of each component of two alkaline/surfactant/polymer flooding systems on interfacial tension is discussed, in which a low-price natural mixed carboxylate (SDC) is used as the major surfactant. The results indicate that the optimal composition is SDC (0.5%), alkaline NaHCO3/Na2CO3 with mass ratio of 1 (1.0%), and hydrolyzed polyacrylamide(0.1%). In the coreflood experiment, their oil recovery is increased by about 25.2% and 26.8% original oil in place, respectively.

关键词 alkahne/surfactant/polymer flooding system natural mixed carboxylate interfacial tension phase behavior orthogonal-test-design

分类号

DOI:

An Experimental Study on Alkaline/Surfactant/Polymer Flooding Systems Using Natural Mixed Carboxylate

MU Jianhai, LI Ganzuo, LI Ying

Key Laboratory for Colloid and Interface Chemistry of State Education Ministry, Shandong University, Jinan 250100, China

Received Revised Online Accepted

Abstract Orthogonal-test-design method has been used to determine the optimal formula by phase behavior and interfacial tension studies, respectively. The effect of each component of two alkaline/surfactant/polymer flooding systems on interfacial tension is discussed, in which a low-price natural mixed carboxylate (SDC) is used as the major surfactant. The results indicate that the optimal composition is SDC (0.5%), alkaline NaHCO3/Na2CO3 with mass ratio of 1 (1.0%), and hydrolyzed polyacrylamide(0.1%). In the coreflood experiment, their oil recovery is increased by about 25.2% and 26.8% original oil in place, respectively.

Key words alkahne/surfactant/polymer flooding system; natural mixed carboxylate; interfacial tension; phase behavior; orthogonal-test-design

通讯作者:
牟建海 mujianhai@263.net
作者个人主页: 牟建海; 李干佐; 李英