

عنوان مقاله:

Effect of amphoteric surfactant and salinity on oil phase behavior- An application in Enhanced Oil Recovery

محل انتشار:

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خلاصه مقاله:

Due to increase of oil demand in the world, research about enhanced oil recovery methods are intensified. The surfactant flooding is one of the enhanced oil recovery (EOR) method which is widely used as a tertiary recovery technique. A surfactant can alter interfacial properties between oil and water that presents an influential factor on the injection water flooding which leads to change in the phase behavior of the fluid. A amphoteric surfactant, which has two groups of opposite charges, has been less used for EOR and less studies have been performed to see its influence on EOR. In this work, effect of salinity and surfactant concentration on amphoteric surfactant phase behavior are investigated. For this purpose critical micell concentration is measured and solubilization parameter is calculated. Effect of salinity and surfactant concentration on winsor formation are investigated. We found out the critical micell concentration of amphoteric surfactant is low. The results show the amphoteric surfactant is efficient for high salinity system. With low surfactant concentration, amphoteric surfactant can be efficient that by increasing in salinity leads to decrease of water solubilization. Finally, by increasing in surfactant concentration leads to system change from winsor III to winsor II at fixed salinity.

کلمات کلیدی:

Phase behavior, amphoteric surfactant, Enhanced Oil Recovery, salinity

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