I M Tan, J Pet Environ Biotechnol 2014, 5:4
http://dx.doi.org/10.4172/2157-7463.S1.008

OMICS Group Conferences
Accelerating Scientific Discovery

2nd World Congress on
Petrochemistry and Chemical Engineering
October 27-29, 2014 Embassy Suites Las Vegas, USA

Structure performance relationship of a foaming surfactant used as an oil displacement agent for enhanced oil recovery application

I M Tan
Universiti Teknologi Petronas, Malaysia

CO_2 has the ability to produce foam when in contact with suitable surfactants. In the presence of an adequately stable foam CO_2 has more opportunity to invade by-passed oil and capillary trapped oil in the pores of an oil reservoir. As a result more oil can be recovered. It is essential that the foam possesses the endurance and resistance against oil. The performance of the CO_2 foam for oil displacement is influenced by rock and fluid properties and interactions, rock heterogeneity, injection strategy, and type and structure of the surfactant. A structure-performance relationship of the foaming surfactant is emphasized in this report. A review of the CO_2 foam performance and experiments conducted to identify key success factors of a superior CO_2 foam for enhanced oil recovery is elaborated. A surfactant which has an affinity for CO_2 and water and at the same time repels oil is desired. Knowledge of the CO_2- surfactant solution-oil interaction is essential to the design of a successful CO_2 foam surfactant.

Biography

I.M. Tan has completed his PhD in 1989 from Leeds University, England. He has served several PETRONAS outfit as a quality control engineer, technical service engineer and business planning and development capacities. After 13 years in PETRONAS, he joined the Universiti Teknologi PETRONAS, UTP. He has published over 60 journal papers and conference proceedings. He is a lead research in surfactants in UTP.

isa_mtan@petronas.com.my