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A Comparative Performance of Polyaspartic Acid and Sodium Polyacrylate on Silicate Scale Inhibition

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Abstract : Despite the successes recorded by Alkaline/Surfactant/Polymer (ASP) flooding as an effective chemical EOR technique, the combination CEOR is not unassociated with stern glitches, one of which is the scaling of downhole equipment. One of the major issues inside the oil industry is how to control scale formation, regardless of whether it is in the wellhead equipment, down-hole pipelines or even the actual field formation. The best approach to handle the challenge associated with oilfield scale formation is the application of scale inhibitors to avert the scale formation. Chemical inhibitors have been employed in doing such. But due to environmental regulations, the industry have focused on using green scale inhibitors to mitigate the formation of scales. This paper compares the scale inhibition performance of Polyaspartic acid and sodium polyacrylic acid, both commercial green scale inhibitors, in mitigating silicate scales formed during Alkaline/Surfactant/polymer flooding under static conditions. Both PASP and TH5000 are non-threshold inhibitors, therefore their efficiency was only seeing in delaying the deposition of the silicate scales.

Keywords : alkaline/surfactant/polymer flooding (ASP), polyaspartic acid (PASP), sodium polyacrylate (SPA)
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