

Adsorption Inhibitors



Description:

Using its Adsorption Inhibitor proprietary technology, The EOR Alliance proposes a novel chemical approach to solve the issue of surfactant adsorption in chemical EOR applications.



Application:

ASP, SP, S flooding in hard brine, sandstone and carbonate reservoirs.



Results:

Adsorption of surfactants has been reduced by up to 70% in a broad set of reservoir conditions, including hard brine, high temperature and in carbonate reservoirs. Chemical EOR becomes economically attractive in a broader set of reservoirs, without water softening and without alkali.

Challenges:

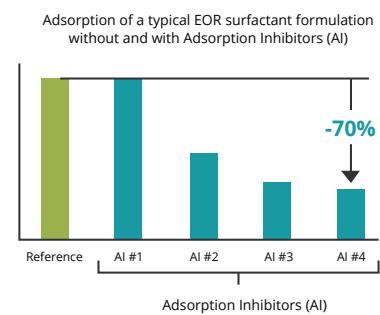
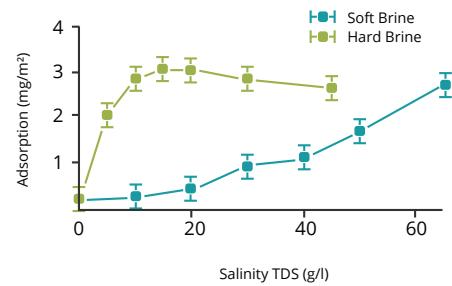
- Surfactants used in chemical EOR formulations tend to adsorb on the reservoir rock, which can result in uneconomical quantities of products required.
- This has traditionally been addressed by the use of alkali such as sodium carbonate in combination with injected water softening. However, such treatments can be costly, and unrealistic for high salinity, high hardness injection water, and ineffective in carbonate formations.
- The quantities of alkali required may represent substantial logistical issues in remote or offshore locations.
- In practice, many reservoirs are left outside of the scope of applicability of ASP/SP flooding.

Solutions:

- To relax water specifications in chemical EOR processes.
- To remove the need to build water softening plants.
- To reduce the logistic issues of using alkali.
- To address the specific challenges of surfactant retention in carbonate reservoirs.

Objective:

- To identify the best commercially available adsorption inhibitor in a specific reservoir that will help to reduce the amount of surfactant used in the ASP/SP flooding process.



Reference: SPE164359, SPE174603.

An Alliance between:

