

## عنوان مقاله:

Performance of a commercial scale inhibitor to thwart mineral precipitation

## محل انتشار:

هفتمین کنفرانس بین المللی مهندسی شیمی و نفت (سال: 1400)

تعداد صفحات اصل مقاله: 5

## نویسندگان:

Amir Hossein Nikoo - *PhD candidate, School of Chemical and Petroleum Engineering, Shiraz University, Shiraz, Iran*

Laila Mahmoodi - *PhD Candidate, Chemical Engineering Department School of Chemical and Petroleum Engineering, Shiraz University Shiraz, Iran*

Mohammad Reza Malayeri - *Professor, Chemical Engineering Department School of Chemical and Petroleum Engineering, Shiraz University Shiraz, Iran*

## خلاصه مقاله:

It is of the great importance to find the mechanisms through which scale inhibitors (SIs) could mitigate mineral precipitation. Accordingly, the current work puts the brine-brine interactions in the absence and presence of a commercial phosphonate-based SI under examination. To achieve this goal, the Y-day static tests were carried out at ۳۶۳ K and ۱ atmosphere. Moreover, the extended Derjaguin-Landau-Verwey-Overbeek (XDLVO) theory was utilized to explore the interactions between gypsum particles immersed in the brines of ۳۰۰۰ mg/L and ۶۰۰۰ mg/L of  $[Ca^{2+}]$  while the gypsum-brine surface energy properties play a crucial role. The findings revealed that the SI markedly mitigates the precipitation propensity.

## کلمات کلیدی:

Gypsum; Static test; Precipitation; Scale inhibitor; Surface energy; XDLVO theory

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1257337>

