

## Removal of naphthenic acids in crude oil by using additive solution and diols

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Upgrading low-quality crude oil has been required to deal with high price and increased demand for crude oil. It is important to remove naphthenic acids from crude oil because naphthenic acids cause corrosion of equipment and plugging of pipeline, and these problems may entail significant cost for maintenance. In this work, additive solution is used to reduce acidity of crude oil. To enhance the removal rate of naphthenic acids, some diols are also used. To verify the performance of the solution and diols, experiments are conducted with pseudo crude oil that is the mixture of diesel oil and naphthenic acids. The pseudo crude oil is blended with the solution and diols, and kept for 2 hours at the temperature of 333.15 K and atmospheric pressure. The performance of solvents is calculated using acidity that is measured by titration of treated pseudo crude oil. The results demonstrate that naphthenic acids in crude oil are removed meaningfully.