



gels



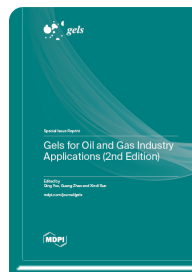
Special Issue Reprint

Gels for Oil and Gas Industry Applications (2nd Edition)

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This Special Issue is focused on the application of gels in oil and gas fields in order to improve hydrocarbon recovery. A broad range of topics will be discussed, including, but not limited to, field application cases, novel gel developments, experimental evaluations of gel performance for conformance control, fracturing, lab- and field-scale numerical simulations, etc.

Gels, such as in situ gels and preformed particle gels, have been used widely in the oil and gas industries for controlling excess water production and gas channeling, which significantly contributes to improving hydrocarbon recovery. Based on different application conditions, many novel gels have been developed. The evaluation of novel gels is crucial since the properties of some polymers can be altered under high temperatures, high salinity, or high CO₂ conditions. Furthermore, due to the complexity of the reservoirs, some gels may perform differently in the field than in the lab. In this case, the experiences gained from field application studies are very valuable for future gel developments, evaluations, and applications. As a cost-effective method, numerical simulation is used widely in the oil and gas industry to simulate gel treatment, analyze production data, and predict future production. Studies related to gels for oil and gas field applications can advance the understanding of the gel performance in porous media and large channels.



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