

Studies on the Steam CO₂ Reforming of Methane for GTL-FPSO Application

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Steam CO₂ reforming (SCR) of methane for the production of syngas was investigated over Ni-based catalysts for GTL(Gas to Liquids) – FPSO (Floating Production Storage and Offloading) applications.

The Ni-based catalysts were prepared by impregnation and coprecipitation method. The catalysts before and after the reaction were characterized by N₂ physisorption, CO chemisorption, XRD, SEM and TEM techniques. The production of syngas by SCR with high pressure (10~25 bar) was simulated by PRO-II for GTL-FPSO applications.

In this work, the simulated results were compared with experimental results in a fixed bed reactor system by controlling the operation conditions of temperature, pressure and feed molar ratios. The catalytic performance was compared over the Ni-based catalyst with different Ni content and calcination conditions.