

Power Law Rate on the Fischer Tropsch Synthesis over Co/Al₂O₃ Catalyst

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Fischer-Tropsch Synthesis(FTS) for the production of clean synthetic fuels has been considered as a key technology in GTL (gas-to-liquids) process. In this research, the Co based catalyst supported on alumina was prepared impregnation method, and characterized by different methods including X-ray diffraction (XRD), Temperature Programmed Reduction (TPR), Transmission electron microscopy (TEM), and N₂ physisorption. The catalytic performance for FTS was evaluated in a fixed bed reactor system with the H₂/CO ratio of 2:1, reaction temperature of 230°C and reaction pressure of 20bar. Kinetic parameters were also estimated by power law rate equations.