

Comparison of Co-based SiC and Co-based SiC-Al₂O₃ Catalysts for Fischer Tropsch Synthesis

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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 work, Co-based catalysts supported on SiC-Al₂O₃ were prepared by an impregnation method. The FTS reaction was carried out in a fixed bed reactor system with the H₂/CO molar ratio of 2, reaction temperature of 230°C and reaction pressure of 20 bar for 120 h. All catalysts were characterized by N₂ physisorption, XRD, TPR, SEM and TEM techniques. The performance of Co/SiC-Al₂O₃ catalyst showed better than Co/SiC catalyst. The results suggest that the catalytic performance of the catalysts depends on particle size of active metal and strong metal support interactions.