

Characterization of Spherical γ -alumina Supported Cobalt Catalysts for Fischer Tropsch Synthesis

이재석^{1,2}, 정재선^{1,3}, 최가람^{1,4}, 문동주^{1,3,*},
이관영²

¹한국과학기술연구원; ²고려대학교;

³과학기술연합대학원대학교; ⁴연세대학교

(djmoon@kist.re.kr*)

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 modified catalysts supported on γ -Al₂O₃ were prepared by an impregnation method. The prepared catalysts were characterized by N₂ physisorption, XRD, TPR, SEM and TEM techniques. 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. The results suggest that catalytic performance over cobalt based catalysts supported on spherical γ -Al₂O₃ depends on the cobalt dispersion and the reducibility, caused by decreasing interactions with γ -Al₂O₃.