

Studies on FTS reactions over graule type
Co-based catalyst

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The design of high performance catalysts compact reactor and process plays a key role in the commercialization of GTL-FPSO process. To design a reactor and a scale-up reactor, it is necessary to get the correct operating condition over structured catalyst. Also the control of Mass diffusion and heat limitation in a FTS reactor are key factors. The effect of active metal loading, type of catalysts and size of catalyst on selectivity, are caused by mass diffusion and heat limitation in the FTS process. A series of cobalt gamma alumina based catalyst were prepared by an impregnation method. The prepared catalysts were characterized by N₂ physisorption, CO chemisorption, TPR, and SEM techniques. The catalytic performance for FTS over the granule type FT catalyst was investigated in a fixed bed reactor system with the H₂/ CO ratio of 2:1, reaction temperature of 230°C and reaction pressure of 20bar.