

Effect of CO₂ on a cobalt-based catalyst for fixed bed Fischer-Tropsch synthesis

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The effect of CO₂ partial pressure on the reaction performance was investigated in Fischer-Tropsch synthesis (FTS) on cobalt-based catalysts. In the present study, FTS was carried out with various CO₂ concentration (0-20 vol%) in a fixed bed reactor. Products in the effluent gas were analyzed by a online gas chromatography. The product distribution and chain growth probability were calculated on the basis of ASF distribution. As increasing CO₂ concentration, CO conversion and selectivity of hydrocarbons were not much altered. In our cobalt-based catalysts, CO₂ acts only as a diluent component.