Effect of activation procedure on the activity of supported iron based Fischer-Tropsch catalysts in CSTR

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Fischer-Tropsch synthesis (FTS) was carried out using supported iron-based catalysts prepared by incipient wetness method activated at different conditions. The reaction was performed in a continuously stirred tank reactor (CSTR) with volume of 500ml equipped with internal filtering system for proper separation of the catalyst and the waxy products. Temperature programmed reduction (TPR) analysis showed that supported iron-based catalysts needed to be activated at much more severe conditions than the conventional co-precipitated catalysts. Catalytic activity of various supported iron-based catalysts were reported relevant to different pre-treatment conditions.