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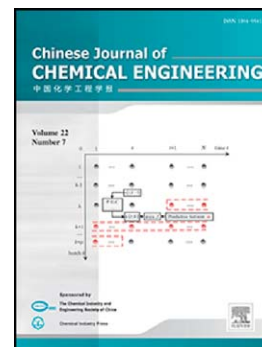
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## Fluid Dynamics and Transport Phenomena

Effect of the operation parameters on the Fischer–Tropsch synthesis in fluidized  
bed reactors

*Xiaolai Zhang<sup>1</sup>, Weixin Qian<sup>1</sup>, Haitao Zhang<sup>1</sup>, Qiwen Sun<sup>2</sup> and Weiyong Ying<sup>1\*</sup>*

1. Engineering Research Center of Large Scale Reactor Engineering and Technology, Ministry of Education, State Key Laboratory of Chemical Engineering, East China University of Science and Technology, Shanghai 200237, China

2. State Key Laboratory of Coal Liquefaction and Coal Chemical Technology, Shanghai 201203, China

**Abstract:** For the Fischer-Tropsch synthesis(FTS), this paper presents a numerical investigation in a 3D fluidized bed reactor. The effect of the operation parameters such as bed temperature, superficial gas velocities, particle size and bed heights is discussed. A 3D-CFD models coupled with FTS chemical kinetics was set up. The computational results are compared with experimental data in terms of the components production rates, etc. The analysis shows that the bed heights, the bed temperature, the superficial gas velocities and particle sizes affect the C<sub>5+</sub> selectivity and the reaction rates. Product yields are dependent on the operating conditions especially the temperature.

Keywords: fluidized bed; Fischer-Tropsch synthesis; CFD

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