

The Enhanced Activity and Stability for The Reverse Water Gas Shift Reaction Operated at High-Temperature

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Reverse water gas shift (RWGS) reaction has been widely used to adjust H<sub>2</sub>/CO ratio in many industrial applications, such as ammonia and methanol synthesis, and Fischer-Tropsch synthesis, because each synthesis requires different H<sub>2</sub>/CO ratio. Up to now, a mixture of Cu, ZnO and Al<sub>2</sub>O<sub>3</sub> at various compositions has been used as a catalyst for low-temperature shift reaction that occurs below 300 °C, and high-temperature shift reaction catalyst, such as Fe<sub>2</sub>O<sub>3</sub>/Cr<sub>2</sub>O<sub>3</sub>, is usually operating in temperature range of 310 ~ 450 °C. On the other hand, the study of the activity and stability for the RWGS reaction operated above 600 °C has been rarely studied.