DME steam reforming over hybrid catalysts mixed with γ-Al_2O_3 and copper-based catalysts prepared by co-precipitation

윤지선, 임선기*
한국과학기술원
(skihm@kaist.ac.kr*)

The hybrid catalysts of different copper based mixed metal oxide catalysts prepared by co-precipitation and γ-Al_2O_3 were investigated for steam reforming (SR) of dimethyl ether (DME). The DME SR is a combined reaction of DME hydrolysis and methanol SR, together with reverse water gas shift (RWGS) reaction. Although hydrolysis of DME is rate-determining step, consumption of its product (CH_3OH) by followed reaction (methanol SR) over copper based catalysts seems to contribute to shifting the equilibrium of DME hydrolysis to right. In this regard, better performance of DME SR may be achieved by the design of copper based catalysts.