Steam Reforming of Synthetic Diesel over Rh-modified Ni based Catalysts

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Steam reforming of synthetic diesel over Rh-midified Ni based hydrotalcite catalyst was carried out at 800 ℃ at atmospheric pressure, space velocity of 10,000 h-1 and feed molar ratios of Steam/C =1.0~3.0. Rh-modified Ni based hydrotalcite catalyst (Rh-Ni/MgAl) was prepared by a solid phase crystallization (spc) method, and characterized by N2 physisorption, CO chemisorption, TPR, TPO, XRD, and TEM techniques. The H2 selectivities over modified hydrotalcite catalysts was obtained 63~73% in steam reforming of synthetic diesel. It was found that Rh-Ni/MgAl catalyst showed higher catalytic stability and less carbon formation than spc-Ni/MgAl catalysts under the tested conditions. The results suggest that Rh-Ni/MgAl catalyst may be applied for the steam reforming of diesel.