

Hydrogen Production by Dry Reforming of Methane Ru Modified Ni Based Catalysts Supported on SiC

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Dry reforming (DR) of methane is an eco-friendly technology that mainly uses greenhouse gases such as CH₄ and CO₂ that produce syngas. However, Ni based catalyst is easily deactivated by sintering and carbon deposition under the DR reaction. In this research, we aimed to develop to Ru modified Ni-based catalyst supported on SiC, providing high catalytic activity and coke resistance under DR reaction. Ru modified Ni-based catalyst supported on SiC was prepared by wet impregnation method. The catalyst was characterized by N₂ physi-sorption, H₂-TPR, XRD and XRF techniques. The catalytic performance was carried out the fixed bed reactor under 650~850°C, 1 bar and GHSV of 50,000 h⁻¹. It was found that Ru-Ni/SiC catalyst showed higher catalytic performance than non-bimetallic catalyst.