

Ceria 지지체내의 알칼리 금속이 수성가스 전이반응에 미치는 영향

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Effect of sodium into CeO₂ support on the activity of Water-gas shift reaction

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Abstract : Pt catalysts supported on CeO₂ prepared with different basic precipitators to change their properties have been investigated for water-gas shift (WGS) reaction. The ceria supports were synthesized by conventional precipitation method and the effect of the basic aqueous solution used in the preparation procedure on the nature of Pt/CeO₂ catalyst was examined through the physical and chemical characterization analyses and then the catalytic activity for WGS reaction was observed. Based on the TPD, XPS and DRIFTS analyses, we conclude that sodium introduced into support plays the important roles for WGS reaction as a promoter to increase density of OH on the catalyst surface and then induce the fast build-up of surface intermediate and also as an electron donor to modify the electron density of Pt and then change the adsorption strength between CO and Pt.

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