

The ATR of iso-octane and commercial gasoline on Rh-based catalysts

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Hydrogen is considered as the most recognized clean energy carrier for the future. Its use fulfills the requirements of being an efficient and environmentally-friendly source of power in the fuel cells. In order to produce the hydrogen for the fuel cells, fuel reforming was performed with catalysts. In this study, ATR of iso-octane and commercial gasoline (GS Caltex) was carried out by using Rh-based catalysts, which consist of CeO₂-Al₂O₃ supports. Experimental conditions fixed with S/C=2, O₂/C=0.42, temperature=700 °C and GHSV=20,000 h⁻¹ through screening test of each conditions. As a results, Rh-Ni/CeO₂-Al₂O₃ catalyst exhibits excellent activity and stability for iso-octane and commercial gasoline despite decrease of noble metal content.