

Hydrogen production by autothermal reforming of propane on Mg-Al hydrotalcite-like catalysts containing noble metals

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The performance of hydrotalcite catalysts in propane autothermal reforming for hydrogen production was studied in fixed-bed flow reactor. Hydrotalcite-like catalysts were synthesized by co-precipitation and then those were promoted by the addition of noble metals. Reaction test was conducted using a feed of $H_2O/C/O_2=3/1/0.37$ at a temperature range from 300°C to 700°C. The addition of noble metals was enhanced the catalytic activity. Although amount of noble metals is increase, activity is not enhanced. When added the promotor, the size of nickel particles was decreased and degree of dispersion was increased. Also the carbon deposit is low after the reaction. When a solvent of solution was changed, activity was increased. It is because degree of dispersion was increased.