

A Study on The Characteristics of Hydrogen Iodide Decomposition using Alumina-Supported Various Transition Metallic Catalysts

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SI process is one of the method of thermochemical hydrogen production. In the SI process, catalysts have been required for hydrogen iodide decomposition to perform fast at 723K. Platinum has shown good activity in hydrogen iodide decomposition in prior researchers. In this study, alumina-supported transition metallic catalysts, such as Nickel, Cobalt, Iron, Copper, and Tungsten were made and their activities were compared with that of platinum catalyst. Catalysts were prepared by impregnation method and activity tests were carried out with fixed-bed reactor. In addition, analysis methods such as BET, XRD, and CO gas chemisorption were used for the characteristic of the catalysts.