

**A study on HI decomposition reaction using Pt catalysts**

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HI(hydrogen iodide) decomposition reaction proceeds with reversible reaction and equilibrium conversion about 20 ~ 22 % can be obtained under existence of catalyst at 400 ~ 500 °C. Platinum catalysts were reported as having good performance. In this study, active surface area of platinum changed considerably by sorts of support. Furthermore, the activity of catalyst were mainly affected by the dispersion of platinum. The active surface area was affected by the supports and the preparation method. we present improved catalyst preparation method for the higher dispersion of platinum compared to the prior researches. Characteristics analysis was carried out by XRD, CO gas chemisorption, SEM, EDX and so forth for the produced catalysts and activity of catalysts was evaluated by HI decomposition apparatus.