니켈과 구리를 이용한 이원금속촉매의 특성과 HI분해활성에 관한 연구

박은정, 고윤기, 배기광*, 박주식, 김창희, 강경수, 조원철, 정성욱, 김영호[1]
한국에너지기술연구원; [1]충남대학교
(kkbae@kier.re.kr*)

In the SI process, hydrogen iodide decomposition have been performed using various catalysts for producing hydrogen. Platinum catalysts have been widely used due to having great activity in hydrogen iodide decomposition. However, considering economical aspect, the research regarding non-noble metal would be required. In this study, various ratio nickel and copper bimetallic catalysts was made by loading on alumina. First of all, initial maximum conversion of 10wt% Ni/Al_2O_3 and 10wt% Cu/Al_2O_3 was 13.27% and 7.26% respectively. Also, most of the $Ni-Cu/Al_2O_3$ had high conversion near Ni/Al2O3. Catalyst was prepared by impregnation method and activity tests were carried out with fixed-bed reactor. In addition, analysis methods such as BET, ICP, XRD, SEM, and TG were used for the characteristic of the catalysts.