Effect of Mg/Al Molar Ratios in Hydrotalcite-supported Pt-BaO Catalysts on NOx Storage Process

정소연, 윤승희, 이희수, 전원진, 김도희*
서울대학교
(dohkim@snu.ac.kr*)

Lean NOx Trap technology have gained considerable attention since international environmental regulations on NOx emissions from diesel engines have become more stringent. In this study, we use hydrotalcite-drived Mg/Al mixed oxides as a support materials for LNT catalysts instead of of γ-Al2O3 which is commonly used LNT catalysts. We synthesized hydrotalcite (HT) materials with different Mg/Al molar ratios, followed by calcination. Pt(2wt%)-BaO(20wt%)/HT and Pt(2wt%)-BaO(20wt%)/γ-Al2O3 were prepared by using incipient wetness impregnation method. We investigated the effect of Mg/Al ratios in HT supported Pt-BaO catalysts on the physicochemical properties and NOx strorage performance of the samples by using several analytical techniques, such as ICP, XRD, TPD, BET, chemisorption and NOx uptake measurement.