

Lean NO_x Reduction with Oxidation of Carbon Monoxide and Hydrogen over Alumina Supported Palladium Catalyst

이영환*, Erdogan Gulari, 이재의¹, 박진원², 최대기³
U. of Michigan; ¹아주대; ²연세대; ³KIST
(leeyw@engin.umich.edu*)

We present results that show Pd/Al₂O₃ has remarkably improved catalytic activity and stability for NO_x reduction when prepared using the incipient wetness impregnation method with Al₂O₃ and Palladium precursor in the presence of CO and H₂ at low temperatures under lean-burn conditions. The NO_x conversion profile was maximal at 423 K (up to 95.2% for 250 ppm CO), at which temperature complete oxidation of H₂ and CO occurred. There is a very strong synergic effect when both CO and H₂ are simultaneously present in the feed. This catalyst has good selectivity towards N₂ and has a window of operation going from 400 K to 530 K.