Environmental Engineering and Management Journal, September 2004, Vol.3, No.3, 387-391
http://omicron.ch.tuiasi.ro/EEMJ/

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NANOPARTICLES OF CALCINED Ce-Co SUBSTITUTED HYDROTALCITE: CATALYTIC BEHAVIOR FOR THE REDUCTION OF N_2O BY NH_3

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Abstract

Nanoparticles of Co-Ce mixed oxides derived from substituted layered double hydroxides have been synthesized, characterized and tested as new catalysts in the process of catalytic reduction of N_2O by NH_3 in the presence of oxygen. The preliminary results show that high N_2O conversions are obtained in a wide range of temperatures: at 673 K the N_2O conversion is equal to nearly 50% and reaches a maximum value equal to almost 90% for temperatures higher than 750 K. In comparison, the catalytic sample derived from calcined not substituted hydrotalcite shows a maximum N_2O conversion equal to 40%.

Keywords: Co-Ce substituted layered double hydroxides, mixed oxides, N_2O reduction

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