



EFFECT OF V³⁺/ Fe²⁺ SUBSTITUTION ON THE SELECTIVE CATALYTIC REDUCTION OF NO BY AMMONIA OVER MIXED OXIDES DERIVED FROM LAYERED DOUBLE HYDROXIDES

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Abstract

Mixed oxides derived from vanadium and iron substituted layered double hydroxides appear to be new environmental friendly catalysts for the process of selective catalytic reduction of NO by ammonia.

Layered double hydroxides, in which aluminum was partially substituted by V³⁺ and magnesium by Fe²⁺, were synthesized by a sol gel method. The effects of the substitution on the physicochemical properties of the samples were studied by using various techniques such as: X-ray diffraction (XRD), X-ray fluorescence (XRF), X-ray photoelectron spectroscopy (XPS). After the thermal treatment the samples were tested as catalysts for the process of selective catalytic reduction of NO by ammonia. In the excess of oxygen, at 658 K the NO conversion reached a maximum value of 87%. The calcination temperature have a major influence on the surface composition of the catalysts.

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