Environmental Engineering and Management Journal, September 2006, Vol.5, No.3, 415-424
http://omicron.ch.tuiasi.ro/EEMJ/

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ICEEM/03 – ENVIRONMENTAL ENGINEERING SECTION
Air Pollution

NITROGEN OXIDE REDUCTION BY PROPENE OVER IR-MCM-41 CATALYSTS

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Abstract

The selective catalytic reduction (SCR) of nitric oxide by propene over siliceous and aluminosiliceous Ir-MCM-41, under lean-burn conditions, was investigated. The influence of the mesoporous support on the catalytic behaviour was examined. The conversion of NO into N_2 on aluminosiliceous Ir-MCM-41 was shown to be strongly enhanced after exposure of the catalyst at 600°C under the reaction mixture. The catalytic performance of both catalysts after activation was found to be almost the same, regardless of the type of mesoporous support. Only a negligible amount of N_2O is formed over Ir-MCM-41 catalysts, indicating a high selectivity toward nitrogen.

Keywords: MCM-41, iridium catalysts, NO reduction, propene

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