

## عنوان مقاله:

Synthesis of CeOx/  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> catalyst for the NH<sub>3</sub>-SCR of NO<sub>x</sub>

## محل انتشار:

دومین کنفرانس بین المللی یافته های نوین پژوهشی در شیمی و مهندسی شیمی (سال: 1395)

تعداد صفحات اصل مقاله: 6

## نویسنده:

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## خلاصه مقاله:

Cerium oxide catalysts (CeO<sub>x</sub>) supported on  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> for high temperature (T=200-400 °C) selective catalytic reduction (SCR) of nitrogen oxides (NO<sub>x</sub>) with NH<sub>3</sub> in the presence of excess O<sub>2</sub> were prepared by a facile impregnation method. Firstly, the support was prepared by a co-precipitation technique. These catalysts were characterized by X-ray diffraction (XRD), Scanning Electron Microscopy (SEM) and H<sub>2</sub>-temperature Programmed reduction (H<sub>2</sub>-TPR) methods. The effects of reaction temperature and CeO<sub>x</sub> loading were investigated on NO<sub>x</sub> conversion and selectivity to N<sub>2</sub>, as a desired product. SEM image of the support showed a spherical and uniform morphology of the alumina with nanometric particles. Under the reaction conditions of 300 °C, 1 bar, NO=NH<sub>3</sub>=900 ppm, O<sub>2</sub>=5 vol%, GHSV=30,000 h<sup>-1</sup> and 14 wt% CeO<sub>x</sub>, NO<sub>x</sub> conversion and N<sub>2</sub> selectivity were 95% and 97%, respectively. XRD pattern and H<sub>2</sub>-TPR of the best catalyst (14 wt% CeO<sub>x</sub>) showed the presence of cerium oxide in .form of CeO<sub>2</sub> as a dominate phase, which is high reactive in NH<sub>3</sub>-SCR of NO<sub>x</sub>

## کلمات کلیدی:

$\gamma$ -Al<sub>2</sub>O<sub>3</sub>, CeO<sub>2</sub>, NO<sub>x</sub>, and NH<sub>3</sub>-SCR

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/477488>

