عنوان مقاله:

Pd nanoparticles–doped LaCoO3 regenerative catalyst for automotive emissions control

محل انتشار:

پنجمین کنگره بین المللی مهندسی شیمی (سال: 1386)

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

The effect of partial substitution of Co by Pd in LaCoO3 (LaCo0.95Pd0.05O3) and its regenerative reduction to surface Pd nanoparticles, in oxidation of automotive exhaust gas pollutants are reported. The catalysts are prepared by citrate method and calcined at 700°C for 5 h. X–ray powder diffraction (XRD) analysis confirms the perovskite structure for the catalysts. BET and H2-temperature programmed reduction (TPR) methods were employed to measure the specific surface area and reducibility of different phases in the catalysts, respectively. CO and C3H8 in air were used as a synthetic exhaust gas. By the regenerative reduction of the Pd containing catalyst at 180°C for 30 min, the complete oxidation temperatures of CO and C3H8 reduces by about 70°C and 50°C, respectively. The .regenerative reduction time has an optimum value which decreases by increasing the reduction temperature

کلمات کلیدی:

Automotive, Pollution, Converter, Perovskite, Palladium, Nanoparticles, Regenerative