

عنوان مقاله:

Study of Shaping a Nickel Perovskite-type Catalyst in the Methane Dry Reforming Reaction

محل انتشار:

پنجمین کنگره بین المللی مهندسی شیمی (سال: 1386)

تعداد صفحات اصل مقاله: 13

نویسندگان:

Peyman Moradi - *Chemical Engineering College, Iran University of Science and Technology, Tehran, Iran*

Matin Parvari - *Chemical Engineering College, Iran University of Science and Technology, Tehran, Iran*

خلاصه مقاله:

The process of shaping heterogeneous catalysts is one of the most important steps in the formation of this type of product. Nickel-lanthanum perovskite was synthesized by the sol-gel method and shaped as a cylinder. The effects of several parameters on the shaping process and final mechanical strength of the catalyst, such as the type and amount of binder, the shaping pressure and heat treatment, have been determined. The results showed that the use of polyvinyl alcohol as the binder, with a mass ratio of binder to catalyst of 1:7, a firing temperature of 700°C and a shaping pressure of 800 bar, led to the production of a catalyst with great mechanical strength. The shaped perovskite catalyst has been tested in the methane dry reforming reaction to produce synthesis gas at atmospheric pressure, and the results have shown that conversion of CH₄ and yield of CO are 0.95 and 0.7 respectively.

کلمات کلیدی:

Nickel Perovskite, Shaping, Dry Reforming, Methane, Synthesis Gas

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