

RESEARCH PAPERS

甲烷的二氧化碳重整动力学研究

C. E. Quincoces, M. G. González

Centro de Investigación y Desarrollo en Procesos Catalíticos CINDECA, Calle 47 Nro 257, C. C. 59, 1900 La Plata, Argentina

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摘要 The kinetics of CO₂ reforming of methane has been studied at 976–1033K on a commercial NiO/CaO/Al₂O₃ catalyst in a packed-bed continuous reactor. The reaction was carried out at atmospheric pressure and CO₂/CH₄ ratio > 2. The Hougen-Watson rate models were fitted to experimental data assuming the dissociative adsorption of methane as the rate-determining step. The reaction rate showed an effective reaction order of about unity for CH₄. The apparent activity energy was found to be 104 kJ·mol⁻¹. Therefore the kinetic reaction parameters were determined and a possible reaction mechanism was proposed.

关键词 [CH₄ reforming](#) [Ni catalysts](#) [syngas](#)

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Kinetic Study on CO₂ Reforming of Methane

C. E. Quincoces, M. G. González

Centro de Investigación y Desarrollo en Procesos Catalíticos CINDECA, Calle 47 Nro 257, C.

C. 59, 1900 La Plata, Argentina

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Key words [CH₄ reforming](#); [Ni catalysts](#); [syngas](#)

通讯作者:

C. E. Quincoces mgg@quimica.unlp.edu.ar

作者个人主页: C. E. Quincoces; M. G. González

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