

Mixtures of Steel-Making Slag and Carbons as Catalyst for Microwave-Assisted Dry Reforming of CH₄

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摘要 The use of steel-making slag as catalysts for microwave-assisted dry reforming of CH₄ was studied. Two carbon materials (an activated carbon and a metallurgical coke), mixtures of the carbon materials and Fe-rich slag, and mixtures of the carbon materials and Ni/Al₂O₃ were tested as catalysts. The mixtures of slag with carbons gave rise to higher and steadier conversions than those achieved over the carbon materials alone. In addition, the use of the metallurgical coke mixed with metal-rich catalysts gave rise to remarkable results. Thus, no CH₄ and CO₂ conversions were achieved when coke was used alone, whereas high conversions were obtained when it was mixed with the metal-rich catalysts.

关键词: [steel-making slag](#) [carbon catalyst](#) [dry reforming](#) [microwave heating](#)

Abstract: The use of steel-making slag as catalysts for microwave-assisted dry reforming of CH₄ was studied. Two carbon materials (an activated carbon and a metallurgical coke), mixtures of the carbon materials and Fe-rich slag, and mixtures of the carbon materials and Ni/Al₂O₃ were tested as catalysts. The mixtures of slag with carbons gave rise to higher and steadier conversions than those achieved over the carbon materials alone. In addition, the use of the metallurgical coke mixed with metal-rich catalysts gave rise to remarkable results. Thus, no CH₄ and CO₂ conversions were achieved when coke was used alone, whereas high conversions were obtained when it was mixed with the metal-rich catalysts.

Keywords: [steel-making slag](#), [carbon catalyst](#), [dry reforming](#), [microwave heating](#)

收稿日期: 2012-02-06; 出版日期: 2012-04-23








引用本文:

Jose M. BERMUDEZ, Beatriz FIDALGO, Ana ARENILLAS等 .Mixtures of Steel-Making Slag and Carbons as Catalyst for Microwave-Assisted Dry Reforming of CH₄[J] 催化学报, 2012,V33(7): 1115-1118

Jose M. BERMUDEZ, Beatriz FIDALGO, Ana ARENILLAS etc .Mixtures of Steel-Making Slag and Carbons as Catalyst for Microwave-Assisted Dry Reforming of CH₄[J] Chinese Journal of Catalysis, 2012,V33(7): 1115-1118

链接本文:

[http://www.chxb.cn/CN/10.1016/S1872-2067\(11\)60386-0](http://www.chxb.cn/CN/10.1016/S1872-2067(11)60386-0) 或 <http://www.chxb.cn/CN/Y2012/V33/I7/1115>

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