

An insight into the effects of synthesis methods on catalysts properties for methane reforming

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ABSTRACT

Methane can be converted into other useful products such as H₂ and liquid fuels to reduce its environmental impact. Due to majorly high energy requirements and the endothermic nature of the reforming process, catalysts are essential. The catalyst preparation method is one of the aspects that can improve the catalytic performance by enhancing the catalyst's physicochemical properties. These methods alter the metal-support interaction, thereby changing the kinetics of the catalyst which can result in enhanced productivity, reduced cost, and optimized energy requirements. This review compares state-of-the-art catalyst preparation methods and discusses their effects on the physicochemical properties of the catalysts used in methane reforming processes.

KEYWORDS

Methane reforming; Heterogeneous catalysis; Catalyst preparation; Physicochemical properties; Syngas

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