

عنوان مقاله:

Investigating the decomposition of ammonia to produce hydrogen as a clean fuel

محل انتشار:

دومین کنفرانس بین المللی پیشرفت های اخیر در مهندسی، نوآوری و تکنولوژی (سال: 1402)

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خلاصه مقاله:

Ammonia decomposition is a promising process for on-site hydrogen production. In this article, the decomposition of ammonia is discussed experimentally and numerically, and alternative methods for providing the necessary energy for decomposition and the catalysts used for ammonia decomposition are described. The effect of the promoters used is analyzed in detail and the obtained catalytic activity is compared. Analysis of the reaction kinetics obtained with different catalysts is also presented and discussed. Finally, the structure of the reactor is reviewed and the latest microreactor technology for the decomposition of pure NH_3 is presented. Also, this paper presents the dominant challenges that various reactor technologies still need to address for possible market entry and subsequent commercialization.

کلمات کلیدی:

.Ammonia Decomposition, Hydrogen production, Kinetics, Catalyst, Microreactor

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