

催化、动力学与反应器

ZnMgAl复合氧化物五催化合成丙二醇苯醚

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摘要

以不同类水滑石化合物为前驱体制得的复合氧化物作为合成丙二醇苯醚反应的固体碱催化剂, 考察了催化剂组成、结构及反应条件对催化合成丙二醇苯醚反应的影响。结果发现, 在所制备的固体碱催化剂中ZnMgAl复合氧化物显示出高效的催化活性和选择性, 在催化剂用量为1. 1%, C₆H₅OH/PO摩尔比为1:1, 反应温度为413 K和反应时间为5 h的条件下, 环氧丙烷的转化率达到97. 2%, 丙二醇苯醚的选择性达93. 4%。

关键词

[固体碱催化剂](#) [环氧丙烷](#) [苯酚](#) [丙二醇苯醚](#)

分类号

ZnMgAl mixed oxides derived from hydrotalcite like compounds for synthesis of propanediol phenyl ether

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Abstract

Propanediol phenyl ether was synthesized from phenol and propylene oxide (PO) in the presence of a series of solid-based catalysts derived from hydrotalcite-like compounds. The effects of the composition and structure of the catalysts, and the reaction conditions on the synthesis of propanediol phenyl ether were studied. The optimum reaction conditions were as follows: the amount of ZnMgAl catalyst was 1. 1%, the molar ratio of C₆H₅OH to PO was 1:1, reaction temperature was 413 K, and reaction time was 5 h. The conversion of PO was 97. 2%, the selectivity of propanediol phenyl ether was 93. 4%.

Key words

[solid base catalyst](#) [propylene oxide](#) [phenol](#) [propanediol phenyl ether](#)

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