

化学
碱土金属添加剂对Cu-ZnO/SiO₂催化仲丁醇脱氢反应性能的影响

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摘要:

采用碱土金属Mg对SiO₂进行预处理后, 用浸渍法制备Cu-ZnO/MgO-SiO₂催化剂. 研究不同质量分数Mg对催化剂的结构和性能的影响, 考察该催化剂对仲丁醇脱氢活性和选择性的影响. 采用XRD, TPD和TPR对催化剂进行表征. 实验结果表明, Mg的加入提高了Cu组分的分散度, 同时降低了催化剂表面的酸性. 调节合适的Mg质量分数可获得性能较佳的仲丁醇脱氢催化剂.

关键词: 碱土金属 Cu-ZnO/MgO-SiO₂催化剂; 仲丁醇; 脱氢

Effect of Alkaline Earth Metal Mg on Cu-ZnO/SiO₂ Catalysts in Dehydrogenation of 2-Butanol

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Abstract:

A series of Cu-ZnO/MgO-SiO₂ catalysts were prepared via impregnation method with the support SiO₂ modified by different contents of Mg and examined in dehydrogenation of 2-butanol. The effects of content of Mg on the structure and property of the catalysts were characterized by means of XRD, TPD and TPR technologies. The results indicate that the content of Mg can improve the dispersion of copper and the acid property of the catalysts. So, the appropriate content of Mg can improve the activity performance of Cu-ZnO/MgO-SiO₂ catalysts.

Keywords: alkaline earth metal Cu-ZnO/MgO-SiO₂ catalyst 2-butanol dehydrogenation

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