

材料工程专栏

The Intermetallic Catalysts for Oxidative Esterification of Methacrolein to Methyl Methacrylate

董海锋,李增喜,王正平,赵威,刁琰琰,张锁江

中国科学院过程工程研究所

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摘要 A series of supported intermetallic Pb-Pb catalysts were prepared with the impregnation method by changing the support (silica, molecular sieve or γ -alumina) and the pore size. The chemical states of the two metals were characterized by XPS analysis, the process for producing methyl methacrylate based on the direct oxidative esterification of methacrolein with methanol in the presence of oxygen was performed in a slurry reactor with the above-mentioned catalysts. The influence of the calcination temperature and the kinds of support as well as the pore size on catalytic activity had been extensively investigated. Under the conditions of temperature at 80°C, catalyst 3.8% (w) and the reaction time 2 h, the conversion rate of methacrolein reached 85%, the selectivity and the yield of methyl methacrylate were 90% and 76.5%, respectively.

关键词 [methyl methacrylate,methacrolein,Pd-Pb catalyst,oxidative esterification](#)

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通讯作者:

hfdong@home.ipe.ac.cn

作者个人主页: 董海锋;李增喜;王正平;赵威;刁琰琰;张锁江

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