

RESEARCH NOTES

添加Cs进行优化的Mo-Bi-Co-Fe-Ce-O催化剂上异丁烯选择性氧化

王雷^a, 李增喜^{a,b}, 张银江^a, 张春平^a, 赵威^a

^a Research Laboratory for Green Chemistry and Technology, Institute of Process Engineering, Chinese Academy of Sciences, Beijing 100080, China

^b Graduate School of the Chinese Academy of Sciences, Beijing 100049, China

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摘要 Cs-promoted Mo-Bi-Co-Fe-Ce-O catalyst for the selective oxidation of isobutylene to methacrolein had been studied in a fixed bed micro-reactor. The selectivity to methacrolein was significantly improved by the addition of Cs, which could probably enhance the dehydrogenation ability and weaken the oxygenation ability of the catalyst based on temperature programmed reduction (TPR) analysis investigation. The kinetic studies indicated that the oxidation of isobutylene to methacrolein followed the first-order kinetic behavior.

关键词 Mo-Bi-Co-Fe-Ce-O催化剂, 异丁烯, 选择性氧化, 催化动力学

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Selective Oxidation of Isobutylene over Cs-promoted Mo-Bi-Co-Fe-Ce-O Catalyst

WANG Lei^a, LI Zengxi^{a,b}, ZHANG Yinjiang^a, ZHANG Chunping^a, ZHAO Wei^a

^a Research Laboratory for Green Chemistry and Technology, Institute of Process Engineering, Chinese Academy of Sciences, Beijing 100080, China

^b Graduate School of the Chinese Academy of Sciences, Beijing 100049, China

Abstract

Cs-promoted Mo-Bi-Co-Fe-Ce-O catalyst for the selective oxidation of isobutylene to methacrolein had been studied in a fixed bed micro-reactor. The selectivity to methacrolein was significantly improved by the addition of Cs, which could probably enhance the dehydrogenation ability and weaken the oxygenation ability of the catalyst based on temperature programmed reduction (TPR) analysis investigation. The kinetic studies indicated that the oxidation of isobutylene to methacrolein followed the first-order kinetic behavior.

Key words isobutylene, selective oxidation, complex catalyst, kinetics.

DOI:

通讯作者 王雷 wang@home.ipe.ac.cn

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