



钛交联粘土在C₃H₆选择性催化还原NO_x中的应用研究

王琪莹^{1,2}, 董新法¹, 林维明^{1,2}

- 1. 华南理工大学, 化工与能源学院, 广东, 广州, 510641;
- 2. 广州大学, 化学化工学院, 广东, 广州, 510006

Application of Ti-pillared clays in selective catalytic reduction of NO_x by C₃H₆

WANG Qi-ying^{1,2}, DONG Xin-fa¹, LIN Wei-ming^{1,2}

- 1. College of Chemistry and Energy, South China University of Technology, Guangzhou 510640, China;
- 2. College of Chemistry and Chemical Engineering, Guangzhou University, Guangzhou 510006, China

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摘要 从钠基土合成了钛交联粘土(Ti-PILC).以交联粘土作为载体负载Cu,考察了对C₃H₆选择性还原(SCR)NO反应的催化活性.Cu/Ti-PILC显示了很好的低温活性.Cu的负载方法影响催化活性.还研究了Ti-PILC负载其他金属(Fe/Ti-PILC,Ce/Ti-PILC,Zn/Ti-PILC,Co/Ti-PILC,Ag/Ti-PILC,Ni/Ti-PILC)催化剂的催化活性.用N₂吸附脱附等温线和孔径分布考察了交联过程及铜的负载对粘土结构的影响.

关键词: 交联粘土 Ti-PILC 氮氧化物 选择性催化还原 催化剂

Abstract: Ti-pillared clays(Ti-PILCs) were synthesized from Na-montmorillinite.Cu-doped pillared clays were studied as catalysts for selective catalytic reduction(SCR) of NO by propylene.Cu/Ti-PILC showed high activity at relatively low temperatures.The method of copper loading influences the catalytic activity of the catalysts.The following catalysts were also prepared and studied:Fe/Ti-PILC,Ce/Ti-PILC,Zn/Ti-PILC,Co/Ti-PILC,Ag/Ti-PILC and Ni/Ti-PILC.N₂ adsorption/desorption isotherms and pore size analysis were applied to study the influence of the pillaring process and Cu loading on the clay structure.

Key words: pillared clays Ti-PILC NO_x selective catalytic reduction catalyst

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电话：0871-5033829(传真) 5031498 5031662 E-mail: yndxxb@ynu.edu.cn yndxxb@163.com