

银、镧改性混合型吸热碳氢燃料裂解分子筛催化剂的研究

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摘要 为提高吸热型碳氢燃料的吸热能效,制备了吸热型碳氢燃料NNJ-150和银、镧离子交换改性USY, ZSM-5分子筛及混合分子筛,考察了NNJ-150在USHY, HZSM-5和二者混合物以及银、镧改性混合分子筛催化剂上的裂解情况。结果表明, NNJ-150在Ag-LaUSY + Ag-LaZSM-5 (75: 25)混合分子筛上裂解时,低碳烯烃选择性较高(600 °C, 47.92%),催化剂寿命较长(35 min以上),催化性能比较稳定,可满足冷却高超音速飞行器的要求。

关键词 [HZSM-5](#) [催化裂解](#) [离子交换](#) [催化活性](#) [银](#) [镧](#)

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Study of Cracking Catalysts of Mixed Zeolites Modified by Ag and La to Endothermic Hydrocarbon Fuels

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Abstract In order to improve endothermic ability of endothermic hydrocarbon fuel, the endothermic hydrocarbon fuel NNJ-150 and the catalysts mixed with USY and ZSM-5 which have been modified by La³⁺ and Ag⁺ were prepared. NNJ-150 cracked on USHY, HZSM-5, their mixture and mixed zeolite catalysts modified by Ag⁺ and La³⁺ was studied. Results show that the selectivity of light olefins is high (600 °C, 47.92%), the lifetime of catalyst is long (above 35 min, 500 °C), and the performance of catalyst is stable when NNJ-150 is cracked on Ag-LaUSY + Ag-LaZSM-5 (75:25). It can satisfy the need of cooling high supersonic craft.

Key words [HZSM-5](#) [CATAROLE PROCESS](#) [ION EXCHANGING](#) [CATALYTIC ACTIVITY](#) [Ag](#) [La](#)

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