

Catalytic Cracking of Butene to Propylene over Modified HZSM-5 Zeolites

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Abstract : Catalytic cracking of butene to propylene was carried out in a continuous-flow fixed-bed reactor over HZSM-5 catalysts modified by nickel and phosphorus. The structure and acidity of catalysts were measured by N₂ adsorption, NH₃-TPD and XPS. The results revealed that surface area and strong acid sites both decreased with increasing phosphorus loadings. The increment of phosphorus loadings reduced the butene conversion but enhanced the propylene selectivity and catalyst stability.

Keywords : butene, catalytic cracking, HZSM-5, modification

Conference Title : ICACCE 2014 : International Conference on Applied Chemistry and Chemical Engineering

Conference Location : Paris, France

Conference Dates : July 21-22, 2014