

Abstract

The present invention provides a modified Y-type molecular sieve, characterized by having

- 5 a unit cell size of 2.420-2.440nm; as percent by weight of the modified Y-type molecular sieve, a phosphorus content of 0.05-6%, a RE_2O_3 content of 0.03-10%, and an alumina content of less than 22%; and a specific hydroxyl nest concentration of less than 0.35mmol/g and more than 0.05mmol/g,

said specific hydroxyl nest concentration=	$\frac{[(M_{500^\circ\text{C}}-M_{200^\circ\text{C}})-(17/9)\times(M_{800^\circ\text{C}}-M_{500^\circ\text{C}})]\times 1000}{36\times(1-M_{200^\circ\text{C}})\times C}$	(Unit:mmol/g)
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- wherein $M_{200^\circ\text{C}}$, $M_{500^\circ\text{C}}$ and $M_{800^\circ\text{C}}$ respectively represent the weight loss percents of
- 10 a sample measured at 200°C, 500°C and 800°C, and C is the crystallinity of the sample. The modified Y-type molecular sieve has few defect in the crystal lattice. The application of the zeolite in the catalytic cracking catalyst as active component can maintain a long period stable activity, effectively control the coke yield and increase the heavy oil utilization. The present invention also relates to the
- 15 preparing method and the use of the modified Y-type molecular sieve.