

Abstract

5 A m-xylene adsorbent, comprising 94 to 99.9 wt% of a Y molecular sieve and 0.1 to 6 wt% of a matrix, wherein the Y molecular sieve consists of a non-crystal-transformed Y molecular sieve and a Y molecular sieve produced by a crystal transformation, wherein the non-crystal-transformed Y molecular sieve is a mesoporous nano Y molecular sieve which has a crystalline grain size of 20 to 450 nanometers, contains two types of
10 mesoporous pores, and respectively has most probable pore diameters of 5 to 20 nanometers and 25 to 50 nanometers. The adsorbent is used for adsorptive separation of m-xylene from mixed C8 aromatic hydrocarbons, and has the good mass transfer performance, the relatively high adsorption selectivity for m-xylene and adsorption capacity.

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Figure 3