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Abstract

This invention relates to a microsphere catalyst for the conversion of oxygen-containing compounds to olefins and the preparation method thereof.

5 The catalyst system is consisted of silicon oxide, phosphorus oxide and alumina, and can simultaneously contain alkaline earth metal oxide and transition metal oxide. The mass contents of respective components are: 2-60% of silicon oxide, 8-50% of phosphorus oxide, 20-70% of alumina, 0-10% of alkaline earth metal oxide, 0-20% of transition metal oxide, and the sum of the
10 mass contents for all the components is 100%. The invention is characterized in using a special silicoaluminophosphate molecular sieve or a transition metal-containing silicoaluminophosphate molecular (such as SAPO-34) as an active component of the catalyst, and mixing the same with other raw materials containing respective oxide components and an organic compound acting as
15 pore-forming agent (such as natural product sesbania powder) to prepare a slurry with a certain solid content. After a sufficient colloid-milling, the product is spray dried and calcined at high temperature, and therefore a microsphere catalyst with a wearing index less than 2 is obtained.



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