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Adsorption properties of palladium particles supported on aluminum oxides with varied acidity in hydrogenation of butadiene-1,3

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Abstract

© 2017, Pleiades Publishing, Ltd.Influence exerted by acid-base modifiers of aluminum hydroxide on the texture and acid characteristics of the aluminum oxide support was studied. The effect of the modified aluminum oxides on the charge state of the active component of aluminum-palladium catalysts was determined. It was found that catalysts based on a support with high concentration of strong acid centers are characterized by low conversion of butadiene-1,3 due to the firm chemisorption of the diene on electron-deficient palladium particles. Their formation is due to the strong metal-support interaction. By contrast, catalysts synthesized with supports having a small number of acid centers provide a high conversion of butadiene-1,3.

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