

## Formation of an active surface of $\text{MoO}_3/\gamma\text{-Al}_2\text{O}_3$ catalyst for the metathesis reaction of ethylene and *trans*-2-butene in propylene

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### Abstract

The effect of nitric acid addition in the process in preparing the supported Mo-containing alumina catalyst on the nature and distribution of active structures, acid-base properties and catalytic properties in the metathesis reaction of ethylene and *trans*-2-butene to propylene was investigated in the present work. The object of investigation is a molybdenum oxide supported on the  $\gamma\text{-Al}_2\text{O}_3$  (JSK «SKTB «Katalizator», Novosibirsk). It is shown that the addition of nitric acid in the impregnating solution of ammonium heptamolybdate affects the nature of the interaction of the precursor of the carrier component with support surface, the nature of the active component, acid-base properties, morphology and phase composition of the catalyst, that is the reason of the catalytic properties of synthesized systems in the metathesis reaction of ethylene and *trans*-2-butene into propylene.