



**“Gheorghe Asachi” Technical University of Iasi, Romania**



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## STUDY ON THE ALKYLATION MECHANISM OF ISOBUTANE WITH 1-BUTENE USING ENVIRONMENTAL FRIENDLY CATALYSTS

**Tatjana Juzsakova<sup>1\*</sup>, Alexandra Csavdari<sup>2</sup>, Ákos Rédey<sup>1</sup>, Tamás Fráter<sup>1</sup>, László Dióssy<sup>3</sup>,  
Gabriela Emilia Popita<sup>4</sup>, István Ráduly<sup>5</sup>, Lenke Ráduly<sup>5</sup>, János Lauer<sup>1</sup>**

<sup>1</sup>University of Pannonia, Institute of Environmental Engineering, 10 Egyetem St., Veszprém, 8200 Hungary

<sup>2</sup>Babes-Bolyai University of Cluj-Napoca, Faculty of Chemistry and Chemical Engineering,  
11 Arany János St., 400028 Romania

<sup>3</sup>University of Pannonia, Department of Meteorology and Water Management, 7 Fesztetics St., Keszthely, 8360 Hungary

<sup>4</sup>Babes-Bolyai University of Cluj-Napoca, Faculty of Environmental Science and Engineering,  
30 Fântânele St., Cluj-Napoca, 400294 Romania

<sup>5</sup>Babes-Bolyai University of Cluj-Napoca, Faculty of Economics and Business Management,  
14 Stadion St., Sfântu Gheorghe, 520050 Romania

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### Abstract

The alkylation of light hydrocarbons leads to produce the high octane number gasoline blending components. The homogeneous catalytic alkylation reaction is usually carried out at low temperature in the presence of H<sub>2</sub>SO<sub>4</sub> and HF. The use of heterogeneous catalysis for this reaction is a promising solution for the replacement of hazardous acids to environmentally friendly zeolite catalyst. The alkylation reaction of isobutane with 1-butene was studied on selected zeolite catalysts. The objective of the research was to study the mechanism of the alkylation reaction with taking the rate determining step and irreversible step into consideration.

**Keywords:** alkylation, catalysis, mechanism, rate determining step

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\* Author to whom all correspondence should be addressed: e-mail: yuzhakova@almos.uni-pannon.hu, Phone: +3688624403