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New resistant to mechanical degradation viscosity modifiers to lubricant oils

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The demand for technological innovations in the lubricant oil sector has steadily increased with the evolution of engineering. Currently, many lubricant properties have been reinforced or created by means of chemical polymeric additives, in the constant search for improved performance, efficiency, durability. Viscosity index improvers are among the most important additives for lubricant oil formulation. Our work is aimed to obtaining new viscosity modifiers based on the copolymers of isobutyl vinyl ether (IBV) with acrylates and methacrylates. For synthesis these additives we used the approach to obtain the compositionally homogeneous alternating copolymers. It was shown, that the various double copolymers of alkyl methacrylates with vinyl alkyl ethers have high resistance to thermal and mechanical degradation. In comparison with iso- and normal butyl vinyl ethers the iso- isomer is more resistant to destruction. In solution of synthetic oils the developed additives based on the IBV in 7-9 times are greater than the commercial Russian analogues on the stability. Low-temperature characteristics of oil solutions of the obtained copolymer additives also were studied. *The research is partly supported by the grants: the agreement of August 27, 2013 № 02.B.49.21.0003 between The Ministry of education and science of Russian Federation and Lobachevsky State University of Nizhny Novgorod and the agreement № 14.594.21.0005.*

Biography

Evgeniya Geraskina is a PhD-student of the Lobachevsky State University of Nizhny Novgorod National Research University in Russia. The scientific interests associate with catalysis, chemistry of polymer materials and petrochemistry. She is an active participant in international conferences devoted to modern problems of chemistry. She has already published near 10 papers and communications in reputed journals in Russia and EU. She is winner of several competitions and grants for young researchers. The works carried out in the field of petrochemical are interesting in Russia and abroad.

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