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Hexene -1, dicyclopentadiene and triple decylmethacrylate as joint polymer additives viscosity of petroleum oils

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One of the urgent problems of modern petrochemical is to obtain base oils with a high viscosity index. From different ways of getting these oils, the simplest and safest of them is the use of additives in the composition viscosity of petroleum oils of polymeric compounds.

Viscosity-for ability of improving the temperature properties, polyalkylmethacrylates are higher than other viscosity agents, but polyalkylmethacrylates compared with polyolefins are more expensive and less durable to destructive influences. So getting in one molecule both α-olefins and connecting links of methacrylates, chemically modified polymeric compounds are of great interest.

To this end, we conducted a joint triple polymerization of hexane 1 dicyclopentadiene in the presence of an initiator decylmethacrylate. The process was conducted using peroxides benzene as initiator, at a temperature of 70-80^{0}C during 4-6 hours. The composition and the structure of the synthesized copolymers were investigated by the methods of NMR and IR spectroscopy and elemental analysis.

The combination of synthetic viscosity-temperature properties Viscoplex V-2-670 and with the addition of an industrial type polidecylmethacrylate was comparatively investigated in oils И-12 A. Thermal destruction of the investigated samples was carried out by heating in their turbine oil 5% solution at a temperature of 200^{0}C within 12 hours. It has been found that the viscosity- to improve thermal properties, the samples are approximately at the same level even more excellent due to destructive influences terpolymers Viscoplex V-2-670 and 2-polidecylmethacrilate industrial additives.

Triple copolymer for concentrated oil, if as a result of reducing the viscosity of being in the range of 3,1 -6,0%, the rate for other additives is 12,0-17,8%. Thus the including the links of dicyclopentadiene in the polymer composition, improves the stability of the obtained compounds to thermal influence. This is connected both with the cyclic structure of dicyclopentadiene and the formation of new chemical bonds in copolymers, and this connection is stronger than the bond straight chain polymers of C-C.

Biography

Natavan Talishova graduated from Baku State University with a bachelor's degree in 2005, and in 2007 she graduated from Azerbaijan State Pedagogical University with a master's degree. In 2008 she entered in the doctoral ANAS Institute of Chemistry of Additives on specialty Petrochemistry. In 2014 she defended her PhD thesis in chemistry in the petrochemical field. She has authored more than 20 scientific publications. Most of them have been published in prestigious journals of Russia. Her scientific researches devoted to synthetic oils to increase viscosity and temperature properties of oil products, for improving the viscosity index of polymer additives.

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