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Preparation of carbon nanomaterial dispersion in aqueous solutions of surfactants and polymers

© **Rustem R. Amirov**,[1+] **Sergey A. Neklyudov**,[1]
Lilia M. Amirova,[2] and **Alexander V. Gerasimov**[1]
[1] *A.M. Butlerov Institute of Chemistry. KFU. Kremlevskaya St., 18. Kazan, 420008. Tatarstan Republic. Russia. Phone: +7 (843) 233-71-45. Fax: +7 (843) 233-74-16. E-mail: Alexander.Gerasimov@ksu.ru*
[2] *Department of Aerospace Engineering of IANTE. Tupolev Kazan State National Research Technical University. Tolstoy St., 15. Kazan, 420012. Tatarstan Republic. Russia. Phone: +7 (843) 236-64-94. E-mail: Rustem.Amirov@ksu.ru*

*Supervising author; [+]Corresponding author

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Abstract

Polymer nanocomposites based on polypropylene of various grades PP8300G, PP1525J and PP8300M, were prepared being modified with carbon nanomaterials (CNM). A method of CNM dispersing in water with a number of surfactants and water-soluble polymers was developed. Influence of the type of solubilizing agent on the preparation efficiency of the stable solutions of individualized carbon nanotubes was evaluated. To obtain the uniform distribution of nanotubes in the polymer matrix, we suggested to deposit the obtained aqueous dispersions of carbon nanoparticles were on polypropylene pellets for subsequent extrusion.