HYGROSCOPIC PROPERTIES OF ENOXIL-SILICA COMPOSITES

Oksana Stavinskaya \textsuperscript{a*}, Iryna Laguta \textsuperscript{a}, Olga Kazakova \textsuperscript{a}, Pavlo Kuzema \textsuperscript{a}, Tudor Lupascu \textsuperscript{b}

\textsuperscript{a}Chuiko Institute of Surface Chemistry of National Academy of Sciences of Ukraine, 17, General Naumov str., Kiev 03164, Ukraine
\textsuperscript{b}Institute of Chemistry, 3, Academiei str., Chisinau MD 2028, Republic of Moldova
\textsuperscript{*}e-mail: icvmtt34@gmail.com

Abstract. Enoxil-silica composites with various Enoxil-to-silica ratios were prepared by mechanical mixing of the biologically active Enoxil and fumed silica powders. The hygroscopic properties of the composites were studied by the gravimetric method. It has been shown that the use of Enoxil in composites with silica may significantly reduce the Enoxil ability to absorb water from the gas phase and, therefore, improve its storage stability. The strongest hygrosopicity reduction is observed for the composites with Enoxil-to-silica ratio of (0.15\textendash0.35):1, which corresponds to an approximate monolayer distribution of the Enoxil biomolecules on the silica surface.

Keywords: Enoxil, biomolecule, fumed silica, composite, hygroscopicity.

Received: 17 April 2018/ Revised final: 30 May 2018/ Accepted: 31 May 2018