

Novel composition reagents for water treatment

A. V. Zyhmant, N. D. Tsygankova, D. D. Grinshpan

*Research Institute for Physical Chemical Problems, Belarusian State University, Minsk, Belarus,
e-mail: grinshpan@bsu.by*

The development of inorganic coagulants can be regarded as a significant progress in the coagulation-flocculation field. However, the inorganic coagulants can be considered as less efficient when compared to the organic polymers (polyelectrolytes) regarding their aggregation abilities. In order to increase their flocculation efficiency further, the combination of inorganic coagulant (alum or polyaluminum chloride) and polyelectrolyte flocculant in one unique composition reagent is proposed. Composition reagents for natural and waste water treatment contain a coagulant and flocculant or sorbent, coagulant and flocculant in their composition. Dispersity of the reagents provides a different dissolution rate of mixture components. The composition reagents efficiency in water treatment process was indicated to be as high as the pre-dissolved reagents. This type of reagents allowed us to simplify water treatment process and to reduce the quantity of coagulant.