Świderska-Bróż, M., Rak, M., Mołczan, M., Biłyk, A. Effect of the Basicity of Aluminium Coagulants and the pH of the Water on the Removal of Organic Pollutants. ***Ochrona Srodowiska*** **2008, Vol. 30, No. 4, pp. 29–33.**

Abstract: The paper addresses the problem of how some parameters of the water being treated and the type of the coagulant being used affect the efficiency of organic matter removal. It was found that apart from the pH of the water, the removal efficiency depended on the proportion of the dissolved fraction to the total organic carbon (DOC/TOC), and that the extent of removal increased as the proportion of DOC decreased. The comparison of the coagulants used in this study made it clear that polyaluminium chlorides provided a higher removal of organic substances than did aluminium sulfate. The study has produced the following findings. The extent of coagulation involving polyaluminium chlorides increases with the increase in their basicity. The increase of the H^+ concentration in the water prior to coagulation enhances the efficiency of organic matter removal, and the extent of removal is the higher, the lower is the basicity of the coagulant used. The substitution of aluminium sulfate with polyaluminium chlorides, especially with those of a high basicity, not only upgrades the removal of organic matter in general, and that of DOC in particular, but also reduces the coagulant dose required for the process.

Keywords: Coagulation, aluminium sulfate, polyaluminium chlorides, high-basicity coagulant, total organic carbon (TOC), dissolved organic carbon (DOC).