

Guminska, J. Technological Problems in Coagulation of Low-Polluted Water. *Ochrona Srodowiska* 2014, Vol. 36, No. 3, pp. 19–22.

Abstract: Most often coagulation process in treatment of surface waters is optimized for effective removal of dissolved organic contaminants as they determine the required coagulant dose. With this in mind, results of a pilot study were presented. The purpose was to analyze problems with PACl dose selection in treatment of water with low-turbidity and low content of dissolved organic pollutants. It was determined that coagulant dose needed for effective adsorption of the dissolved matter was much smaller than the one required for very fine suspension aggregation. This resulted in an increase in number of fine particles (1 μm in size) in clarified water, despite no significant change in turbidity and UV absorbance values (filtered samples). Therefore, in order to avoid this adverse event of fine particle number increase in the treated water, surface coagulation should be used instead of volumetric coagulation. Surface coagulation allows much more effective removal of pollution particles with high surface charge.

Keywords: Organic matter, coagulation mechanism, optimal dose, pre-hydrolyzed coagulant.