Dudziak, M., Bodzek, M. Separation of Bisphenol A by Nanofiltration under Conditions of Membrane Surface Saturation. ***Ochrona Środowiska*** **2008, Vol. 30, No. 2, pp. 17–21.**

Abstract: The aim of the study was to assess the efficiency of separating bisphenol A (a xeno-estrogen classified as an environmental pollutant of a comparatively high biological activity) by nanofiltration, at varying concentration (40 to 400 mg/m^3) and transmembrane pressure (0.5 to 2.5 MPa) in the course of the process. Consideration was also given to the effect of membrane surface saturation on the retention coefficient of the micropollutant being removed. It has been shown that bisphenol A underwent adsorption on the membrane and in the membrane structures (a phenomenon concomitant with nanofiltration) and that the extent of adsorption increased up to the moment of membrane surface saturation. Once the membrane surface was saturated, no changes were observed in the value of the parameter examined, and the retention coefficient of the pollutant being removed remained constant. The adsorption phenomenon was found to depend both on the concentration of the pollutant in the water and on the transmembrane pressure in the course of the process. It can therefore be expected that during separation of the organic micropollutants which are present in the water the efficiency of the treatment process will be disturbed. It has been emphasized that regular membrane cleaning produces postregeneration solutions where the quantity of biologically active micropollutants is higher than in raw water, and this necessitates their treatment and an efficient decontamination.

Keywords: Water treatment, nanofiltration, bisphenol A, membrane surface saturation.