

Perchuc, M., Krol, P., Grabczewski, P. Adsorption of Humic Acids from Aqueous Solutions onto Powdered Active Carbon. *Ochrona Srodowiska* 2009, Vol. 31, No. 4, pp. 43–46.

Abstract: Humic acids extracted from brown coal and peat were made subject to adsorption from model solutions, using three powdered active carbons (PAC), CWZ-22, CWZ-30 and CWH-22, as adsorbents (Gryfskand, Hajnowka). The relations between humic acid content, color, COD and UV absorbance are of practical significance. They make it possible to use the quick determination of the UV absorbance ($\lambda=254$ nm) for assessing the values of the other water quality parameters. The isotherms of adsorption obtained in the jar tests enabled the choice of the dosage for the active carbon and the conditions for the sorption process. It has been demonstrated that the type of the humid acids that were present in the model solutions (extract from brown coal or extract from peat) exerted an influence on the carbon dose established on the basis of the adsorption isotherms. The PAC doses determined by the jar tests were slightly higher when the water contained a peat extract. The experiments with the choice of the active carbon dose have revealed that the quantity of the powdered active carbon required for attaining an equilibrium concentration of humic acids in treated water is in direct proportion to their concentration in raw water.

Keywords: Humic acids, color, UV absorbance, COD, adsorption, powdered active carbon.