

**Mołczan, M. Variability Range of Specific UV Absorbance (SUVA) in the Kinetic Test of Water Treatment by Magnetic Anion Exchange. *Ochrona Środowiska* 2008, Vol. 30, No. 2, pp. 49–55.**

**Abstract:** Water treatment involving magnetic anion exchange brings about a reduction in the content of organic substances, which is concomitant with a decrease in the Specific UV Absorbance (SUVA) value. In the kinetic test (which is a fundamental method for the examination of the process), both dissolved organic carbon (DOC) content and  $UV_{254}$  absorbance decrease as the time of contact between the anion-exchange resin and the water being treated increases. Over the same range of contact time, the value of SUVA (UV/DOC) shows an upward trend followed by a downward one. It has been demonstrated that the increase in the SUVA value over the range of low contact time results from the fact that DOC removal proceeds faster than the decrease in  $UV_{254}$  absorbance. The final decrease in the SUVA value results from the decrease in  $UV_{254}$  absorbance, which is proportionally greater than that in the DOC content. The change in the SUVA value is a function of the resin dose and contact time, and the growth phase terminates the sooner, the greater is the resin dose (with doses exceeding  $10 \text{ cm}^3/\text{dm}^3$ , this change is insignificant). The time of stabilization of the minimal SUVA value also decreases with the increase in the resin dose. The increase in the resin dose also results in the decrease of the final SUVA value and in the shortening of the time required for achieving this. The variability intervals for the SUVA values determined in this study can be regarded as complementary to the data made use of when choosing the kinetic parameters for the MIEX<sup>®</sup>DOC process on the basis of the range of applicability described by quantity parameters.

**Keywords:** Organics removal, ion exchange, MIEX<sup>®</sup> resin, DOC, UV absorbance, SUVA, kinetic test.