

**Kowalska, I. Anionic Surfactant Removal by Ion Exchange. *Ochrona Srodowiska* 2009, Vol. 31, No. 1, pp. 25–29.**

**Abstract:** The anionic surfactant SDBS of the alkylbenzenesulfonate group was tested for the efficiency of removal on anion exchange resins of choice. The efficiency of ion exchange was assessed in terms of the following parameters: initial SDBS concentration within the range below and above the critical micellar concentration, dose of ion-exchange resin, and time of contact between the resin and the aqueous solution being treated. The ion exchange isotherms for the SDBS were determined by kinetic tests, which revealed that ion exchange was an efficient method of SDBS removal. The removal efficiency increased with the extension of the time of contact between the resin and the SDBS anions, and with the increase of the resin dose applied. The efficiency of SDBS removal *via* ion exchange depended primarily on the type of the resin applied (dissociation of the functional groups of the resin, grain size of the resin, cross-linking of the polymer). It was demonstrated that the main contributory factor in the efficiency of SDBS separation by ion exchange was the polymer structure, which had a decisive influence on the accessibility of the organic macromolecules to the active sites. Analysis of the Langmuir isotherm model enabled the anion exchange resin tested to be arranged in the following order (according to their exchange capacity with respect to SDBS): MIEX<sup>®</sup>>SBW>A400>A200>A100.

**Keywords:** Surfactant, ion exchange, anion exchange resin.