Kabsch-Korbutowicz, M., Wisniewski, J., Lakomska, S., Urbanowska, A. Electrodialytical Treatment of Spent Brines from Regeneration of Ion-exchange Resins Used for Natural Organic Matter Removal from Water. *Ochrona Srodowiska* 2011, Vol. 33, No. 2, pp. 35–38.

Abstract: Ion exchange involving anion-exchange resins is an efficient process of natural organic matter removal from water. However, an inherent part of the process is the formation of spent regenerant salts, a by-product whose disposal still raises some environmental problems. The study reported on in this paper aimed at assessing the efficiency of the electrodialysis process when used for sodium chloride recovery from spent brines containing organic substances. The course of electrodialysis was examined using two types of membranes, Neosepta AMX/CMX and Neosepta ACS/CMS, as well as various ratios of the feed solution (diluate) volume to the receiver solution (concentrate) volume (5:5, 5:4 and 5:3). Experiments were carried out with 12% NaCl solutions differing in the content of humic substances (100 g/m^3 and 1000 g/m^3). The study has produced the following findings: (1) The efficiency of the electrodialytical treatment of the spent brine was sufficiently high to enable the reuse of the recovered NaCl solution, and (2) the quantity of humic substances in the concentrate was the lowest, when use was made of the monoselective membrane Neosepta ACS/CMS and the diluate to concentrate volume ratio of 5:4.

Keywords: Ion exchange membrane, humic substances, recovery.