

# **The exposure assessment of the residues of pharmaceuticals in SGD area in the Bay of Puck, southern Baltic Sea**

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Pharmaceuticals comprise one of the few groups of chemicals specifically designed to act on living cells. Therefore their occurrence in the environment presents a special risk and is intensively discussed in environmental sciences. Groundwater has been enriched in pharmaceuticals worldwide while submarine groundwater discharge (SGD) has been recognized as an important exchange pathway between hydrologic reservoirs. SGD to the southern Baltic Sea is a significant source of dissolved organic and inorganic substances (nutrients, carbon, metals) however there have been no studies related to contamination by the pharmaceuticals residues. Therefore, we would like to present both, the data from the development studies of selective and sensitive method for the determination of the residues of most commonly consumed pharmaceuticals and their concentrations in the SGD area in the Bay of Puck, southern Baltic Sea. Presented method bases on the application of solid phase extraction performed on Speedisks. In order to yield better method performance, isotopically labeled internal standards were used in the quantitative analysis and expanded uncertainty of the obtained results was determined. LC-MS/MS technique in MRM mode was used for the final determination.

The obtained results revealed that residues of pharmaceuticals were present in area in the Bay of Puck, southern Baltic Sea at a concentration level of ng L<sup>-1</sup>.

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