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BIOSORPTION OF ANTIMONY BY BROWN ALGAE

S. muticum AND *A. nodosum*

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Abstract

Environmental contamination by antimony has been described as a critical issue in many articles. In this study, the Sb(III) removal by two brown algae, *Sargassum muticum* and *Aschophylum nodosum*, has been tested. Algae were collected in Viana do Castelo beach (Portugal). Preliminary tests were carried out and, based on the results, *Sargassum muticum* was chosen for subsequent experiments. Kinetic data were described by pseudo second order model. After about four hours contact time the equilibrium was achieved. A slight effect of pH was observed in the removal efficiency of Sb by *S. muticum*. Adsorption equilibrium isotherm was determined for pH 5. Langmuir model predicted a maximum adsorption capacity of 5.4 ± 0.8 mg/g. The present study revealed that the alga *S. muticum* can be used as a low-cost adsorbent for antimony removal from aqueous solution.

Key words: algae, antimony, biosorption, low cost adsorbents, oxyanions

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