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NATURAL AND WASTE MATERIALS AS GREEN SORBENTS FOR Cd(II) REMOVAL FROM AQUEOUS EFFLUENTS

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Abstract

Removal of Cd(II) from aqueous streams is of special concern because of its very high toxicity and persistent nature. The sorbents based on natural and waste materials have very promising performances in the treatment of Cd(II) contaminated waters. Very few reviews are available that provide valuable information on the various aspects of the utilization of natural and waste materials for Cd(II) metal ions removal. In this context, this review examines a wide range of materials as green sorbents for the adsorptive removal of Cd(II) from aqueous media and discusses the equilibrium and kinetics of cadmium sorption. From the literature survey, different green sorbents were compared in terms of Cd(II) sorption capacity. Green sorbents being highly efficient, low-cost and versatile can be exploited for Cd(II) bioremediation. This work can be taken as an example of good practice for representative unconventional materials used in Cd(II) removal. The technique needs further development before being applied in daily practice.

Key words: cadmium, isotherms, kinetics, materials, removal

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