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Abstract:

The apparent thermodynamic properties for the adsorption/desorption of carbaryl by a river sediment were studied using a modified Freundlich isotherm. The values of the apparent adsorption/desorption equilibrium constant, Kϕ apparent adsorption free energy, Gϕ apparent rate constant for the desorption reaction, kd, and the apparent lifetime of the adsorbed state, ad, obtained were 43±10, ó9.3±0.6 Kj.mole-1, (3.0±0.7)109 s-1 and (3.5±0.7)10-10 s respectively. Possible implications of these properties on the environmental persistence of the pesticide in the aquatic environment are discussed.