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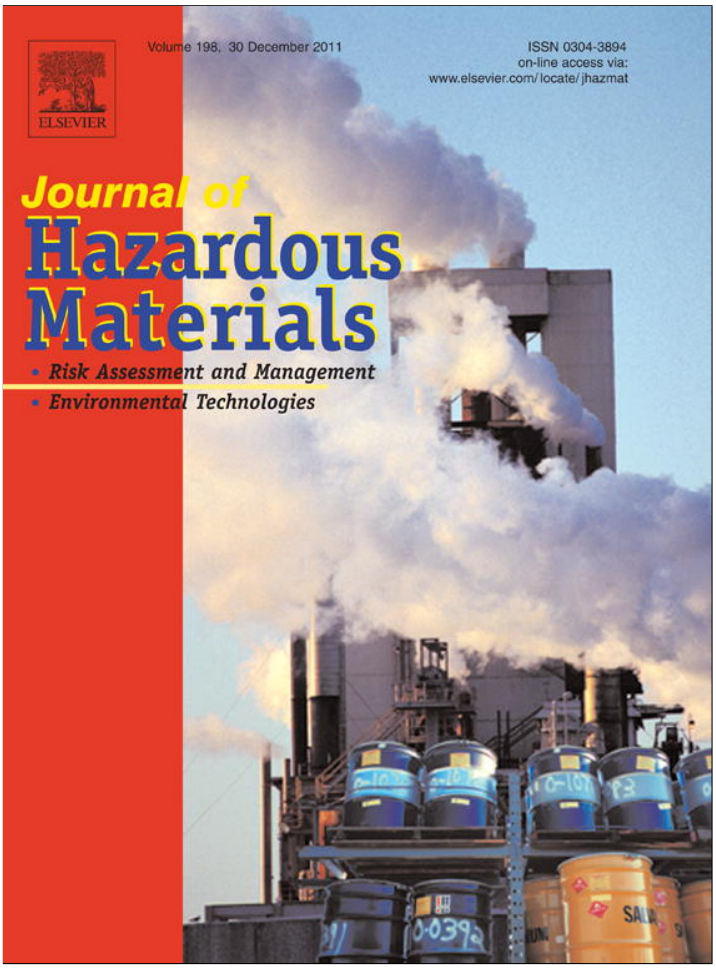

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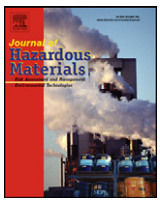

Letter to the Editor

Comment on "comparison of two-stage sorption design models for the removal of lead ions by polyvinyl-modified Kaolinite clay"

Unuabonah et al. published the paper "comparison of two-stage sorption design models for the removal of lead ions by polyvinyl-modified Kaolinite clay" [1]. In Section 2.4. "Adsorption kinetic models" the authors used Eqs. (2)–(4) in the paper. In 1998, the pseudo-second order kinetic expression for the adsorption of dyes [2,3], metals [2,4], and oganic subtatnces [4] were reported by Ho and McKay. In order to distinguish kinetics equation based on adsorption capacity of solid from one based on the concentration of solution. The second order rate expression has been called pseudo-second order [2–4]. Furthermore, the kinetic expression has also been applied to a multi-stage batch adsorption design [5,6], and pseudo-isotherm studies [7,8]. It is clear that Unuabonah et al. used the idea of figures, tables, and equations from the papers entiled "a two-stage batch sorption optimised design for dye removal to minimum contact time" [5] and "a multi-stage batch sorption design with experimental data" [6]. In addition, similar comment has also been reported in *Biochemical Engineering Journal* [9].

In my view, Unuabonah et al. should have cited the original paper for the kinetic model and equations for two-stage batch sorption design as well as thereby provided greater accuracy and information details about the idea they employed.

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