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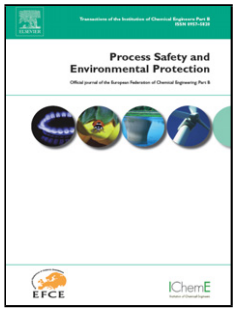

Title: Elucidation of ibuprofen uptake capability of raw and steam activated biochar of *Aegle marmelos* shell: Isotherm, Kinetics, Thermodynamics and Cost estimation

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Elucidation of ibuprofen uptake capability of raw and steam activated biochar of *Aegle marmelos* shell: Isotherm, Kinetics, Thermodynamics and Cost estimation

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Highlights

- Biochar and steam activated form of *Aegle marmelos* were used for ibuprofen removal.
- Hexagonal surface of the biochar facilitates greater adhesion.
- WASAB adsorbed 12.658 mg g^{-1} from 30 mg L^{-1} ibuprofen solution.
- Surface modification of biochar increased removal from 82% up to 85.5%.
- Kinetic studies on ibuprofen sorption suggested chemisorption in both the case.
- A maximum of 245.3 and 255.59 INR were incurred in adsorbent preparation.