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(54) Title of the invention : AMALGAMATION OF NANO CHITOSAN AND ADSORBENT APPLICATION PROCESS FOR THE REMOVAL OF REACTIVE DYE

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(57) Abstract :

This invention provides a kind of amalgamation method and application process thereof nano chitosan adsorbent, be characterized in that chitosan solution and activated carbon derived from fish scales were mixed to form a milky white emulsion of chitosan nanoparticles because of ionic cross linking. This method used for the amalgamation of nano chitosan is ionotrophic gelation and the functional groups on the surface of material were studied by Fourier transform infrared spectroscopy. Xray diffraction was performed to evaluate the nature of the prepared adsorbent. The morphologies of adsorbent were examined using Scanning electron microscopy. The process method of nano chitosan adsorbent for adsorption of reactive dye in dyeing waste water used achieved the adsorption rate of more than 98%. Adsorbent specific area prepared by the present invention is large, mechanical performance is strong, adsorption property have good stability, repeat usage is high. Concentration and pH have immense effect on the adsorption efficiency of an adsorbent. Consequently, these optimal process parameters were streamlined to decide its consequences for adsorption of reactive dye RB9.

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