Functions of chitin fibre in water pollution control

Yan Wang\textsuperscript{a,b,c}, Yixin Zou\textsuperscript{c,*}
\textsuperscript{a}Fujian Key Laboratory of Novel Functional Fibers and Materials, Minjiang University, Fuzhou, China, email: Wangyan6834@163.com (Y. Wang)
\textsuperscript{b}Fujian Provincial Research & Development Base for Garment Industry, Minjiang University, Fuzhou, China, email: zouyxluna@gmail.com (Y. Zou)
\textsuperscript{c}Faculty of Decorative Arts, Silpakorn University, Bangkok, Thailand

Received 24 February 2018; Accepted 6 July 2018

\textbf{Abstract}

This paper aims to disclose the importance of chitin fibre in water pollution control. For this purpose, the cleaning function of chitin fibre in water environment was explored in difference scenarios, including the purification of drinking water, the treatment of wastewater containing metal ions, the treatment of printing and dyeing wastewater, the treatment of acid mine drainage, the treatment of high protein wastewater, the treatment of toxic organic compounds, and the treatment of papermaking wastewater. It is concluded that chitin fibre can remove the acidity and heavy metal ions from wastewater. Meanwhile, the optimal effect of ferric and manganese ion removal can be achieved at the pH of 4.2. The research findings lay the basis for further application and development of chitin fibres.

\textbf{Keywords:} Chitin fibre; Water pollution; Textile industry; Sustainable development

* Corresponding author.


1944-3994/1944-3986 © 2018 Desalination Publications. All rights reserved.