

RENEWABLE ADSORBENTS FOR THE REMOVAL OF TRACE CONTAMINANTS FROM WATER AND EFFLUENTS

Michael Streat

*Emeritus Professor of Chemical Engineering
Department of Chemical Engineering
Loughborough University
Loughborough
Leicestershire LE11 3TU, UK*

ABSTRACT

This paper addresses the topic of sustainable process development for water, wastewater and effluent treatment and reviews the potential of renewable adsorbents/ion exchange materials for the removal of trace micropollutants. Emphasis is placed on the sorption of trace toxic metals on a variety of naturally occurring materials and modified commercial adsorbents. Comparisons are made with a number of speciality ion exchange resins. The scope of conventional and oxidised activated carbon is discussed as well as the potential of marine algal biomass and a naturally occurring water fern, *Azolla Filiculoides*.