

Chemical and biosensor technologies for wastewater quality management

ABSTRACT

Chemical-sensor and bio-sensor technologies commonly used for quality management of wastewater have been critically reviewed. The applications of electrochemical, opto-chemical, piezoelectric, acoustic wave, Biochemical Oxygen Demand (BOD), amperometric BOD, bio-enzymatic, bio-acetylcholinesterase and bio-optical algal sensors are detailed. The effectiveness of sensor measurement in terms of accuracy, selectivity, overall cost, and practicality are the main attributes for appropriate selection of sensor technologies in wastewater quality management. This study provides up-to-date information for researchers who look forward to developing better improved and improvised sensors for the future.

Keyword: Wastewater; Quality management; Chemical sensor; Biosensor; Electrochemical; Opto-chemical