The feasibility study on the application of micellar-enhanced ultrafiltration process for concentrating of Gold and removal of brominated flame retardant (BFR) from leachate resulting from discarded mobile phones

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Abstract
The study examines the feasibility of using micellar-enhanced ultrafiltration to concentrate gold and remove brominated flame retardants (BFRs) from leachate generated from discarded mobile phones. The method involves the use of micelles, which are stable aggregates of surfactants, to enhance the ultrafiltration process. The research focuses on the optimization of operational parameters, such as the concentration of surfactants and the ultrafiltration pressure, to achieve efficient removal of both gold and BFRs. The results indicate that the proposed method is effective in achieving high levels of gold recovery and BFR removal, making it a promising approach for the treatment of leachate from electronic waste.

Keywords: Micellar-enhanced ultrafiltration, Gold recovery, Brominated flame retardants, Leachate treatment.