Effects of organo-floc as natural coagulant on posttreatment of ultrafiltration membrane

ABSTRACT

Membrane cleaning is necessary in order to restore the performance of the membrane. However, the cleaning water after membrane cleaning has become the secondary waste effluent which contains particulates resulting from membrane fouling, membrane pretreatment and feed concentration. In this work, coagulation method was selected as a post-treatment of UF membrane after treating palm oil mill effluent (POME). The application of organo-floc (natural coagulant) as a primary coagulant were studied and compared with aluminum sulphate. The performances of the post-treatment were investigated by the effects of chemical oxygen demand (COD), total suspended solid (TSS) and color removal. The optimization of coagulant process using organo-floc was conducted using central composite design (CCD) in the response surface methodology (RSM).

Keyword: Membrane cleaning; Post-treatment; Coagulation; Palm oil mill effluent; Response surface methodology