



DEVELOPMENT OF A COAGULATION/FLOCCULATION PREDICTIVE MODEL FOR TURBIDITY REMOVAL FROM TEHRAN WATER TREATMENT PLANTS

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Abstract

Aluminum and ferric salts are widely used as coagulants in water and wastewater treatment. They are effective in removing a broad range of impurities from water, including colloidal particles and dissolved organic substances. As well as traditional additives, such as aluminum sulphate ("alum") and ferric chloride, other products containing prehydrolyzed metal ions such as polyaluminum chlorides are now commonly used. The aim of this study was to develop a model for coagulation/flocculation process using various coagulants. It is attempted to have an acceptable model for prediction of coagulant doses based on the desired turbidity. In this study, three coagulants including polyaluminum chloride (PACl), alum and ferric chloride were used. The results obtained indicated that modeling can be used for the prediction of these coagulants doses for Tehran drinking water. This could provide an alternative to the experimental jar test for determining coagulant doses for the treatment of raw waters.

Key words: alum, coagulation/ flocculation, ferric chloride, modeling, polyaluminum chloride (PACl)

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