

Process Parameters Affecting the Kinetics of Peroxyacetic Acid Delignification

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ABSTRACT

Various process parameters affecting eucalyptus kraft pulp delignification with peroxyacetic acid were investigated. The importance of process conditions is explored with a mechanistic model. The model is represented by a first-order reaction rate equation with a time-dependent rate constant. The model includes the effect of temperature, peroxyacetic acid charge, and pH. The comparison between the prediction and experimental results suggests that the model can characterize the heterogeneous nature of peroxyacetic acid delignification process with a high degree of accuracy.