

Kanchana Jogloy 2006: Chemical Kinetic of Sulfide Established in Municipal Wastewater Phetchaburi Mueang Municipality Phetchaburi Province. Master of Science (Environmental Science), Major Field: Environmental Science, College of Environment. Thesis Advisor: Associate Professor Nipon Tungkananuruk, Ph.D.

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Chemical Kinetic of Sulfide Established in Municipal Wastewater Phetchaburi Mueang Municipality Phetchaburi Province. The objectives of this study are to study relationship between sulfide established and BOD, compare between sulfide established in real measure and evaluate sulfide established with chemical kinetic, and probability to apply the variation of chemical kinetic of sulfide for estimate quantity of sulfide in Phetchaburi municipal wastewater. Sampling 4 sample points by grab sampling method. Analysis parameters were BOD₅, sulfate, sulfide, temperature, pH, conductivity, total dissolved solids, total suspended solids and sulfate-reducing bacteria. Analysis about relationship between sulfide established and BOD, relationship between sulfide established and other parameters, and applied for sulfide change equation by integrated rate law and empirical model equation, and compared between sulfide established in real measure and evaluated sulfide established with chemical kinetic by statistics method (t-test).

This study showed that sulfide change in wastewater by integrated rate law, was first-order reaction and rate constant (k) was 0.0271 hr⁻¹. Compared between sulfide established in real measure and evaluate sulfide established with chemical kinetic was not significantly different at .05 level so used chemical kinetic of sulfide established in other points of wastewater sewer in Phetchaburi Mueang Municipality.

Student's signature

Thesis Advisor's signature

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