

Thesis Title	Stability of Iron (III) Hydroxide Sol in Electrolyte Solutions	
Author	Mr. Tanarat Wittayakao	
M.S.	Chemistry	
Examining Committee	Asst. Prof. Dr. Ruangsri Watanesk	Chairman
	Asst. Prof. Dr. Surasak Watanesk	Member
	Dr. Vimol Saiyasombat	Member

ABSTRACT

The stability of iron (III) hydroxide ($\text{Fe}(\text{OH})_3$) sol was studied by means of monitoring the coagulation of $\text{Fe}(\text{OH})_3$ in electrolyte solutions via the measurement of turbidity. The effect of acid – base on coagulation was also studied. It was found that the coagulation of $\text{Fe}(\text{OH})_3$ in the presence of trivalent electrolyte was greater than divalent and monovalent electrolytes, respectively. This could be considered from value of critical coagulation concentration of electrolyte solutions determined from initial coagulation rate and stability ratio. In the case that double layer of $\text{Fe}(\text{OH})_3$ occurred from smaller size or higher charge ions, it would pose more effect on the coagulation of $\text{Fe}(\text{OH})_3$. In addition, it was also found that the maximum rate of coagulation of $\text{Fe}(\text{OH})_3$ in electrolyte solutions occurred at pH about 4.2 .