

## C216459 : MAJOR ENVIRONMENTAL ENGINEERING

KEY WORD : LEAD REMOVAL/CRYSTALLIZATION/FLUIDIZED BED

UNCHALEE JETSUMRIT : LEAD REMOVAL BY CRYSTALLIZATION IN  
FLUIDIZED BED PROCESS. THESIS ADVISOR : ASSI. PROF. SUTHIRAK  
SUJARITTANONTA, Ph.D. 138 pp. ISBN 974-581-460-1

In this study, lead removal efficiency and optimum condition for removal by crystallization in fluidized bed process had been determined. Experiment had been performed at lead concentration 200,100,50 10 and 5 mg./l. with varied pH and sand bed height. Soda ash was used for pH adjustment. Fluidized bed composed of sand diameter 0.85 - 1.20 mm. with upflow velocity 1.5 times minimum fluidizing velocity.

Experiment revealed that, at lead concentration 200,100 and 50 mg./l., suitable condition were at pH 9.5 and 2.0 m. bed height. Removal efficiency in form of total lead were 44.50, 58.89 and 67.95% and increased to be 99.54, 99.11 and 98.88% in form of dissolved lead removal. At lead concentration 10 and 5 mg./l. pH had great effect on removal efficiency, otherwise, bed height had less effect. At suitable condition pH 9.5 and 2.0 bed height, efficiency by total lead removal were 90.05 and 90.40% and increased to be 98.17 and 98.09% dissolved lead removal.