

Biodegradation Kinetics of 4-Chlorophenol

by *Pseudomonas* sp. EL-091S

이 건* · 손 준석 · 장 용석 · 이 미련 · 이 상준 · 이 종근
부산대학교 미생물학과

In order to find the most fitted biodegradation model, biodegradation models to the initial added 4-chlorophenol concentrations were investigated and had been fitted by the linear regression.

The degrading bacterium, EL-091S, was selected among phenol-degraders. The strain was identified with *Pseudomonas* sp. from the result of taxonomical studies. The optimal condition for the biodegradation was as follows: secondary carbon source, concentration of ammonium nitrate, temperature and pH were fructose, 600 mg/l, 30°C and 7.0 respectively. The highest degradation rate of the 4-chlorophenol was about 58% for 24 hours incubation on the optimal condition.

5 mg/l 4-Chlorophenol biodegradation model was zero order, 10 mg/l 4-chlorophenol was first order and 50 mg/l 4-chlorophenol was first order. The zero order kinetic model was analyzed for the most fitted one.