Oxidation features of cyanide ion by H_2O_2 and the effect of homogeneous catalyst

김동수*, 이진숙, 이태윤[1], 이정언[2]
이화여자대학교 환경학과; [1]포항산업과학연구원; [2]섬진EST
(dongsu@ewha.ac.kr*)

Batch kinetic tests were conducted to determine the effects of experimental conditions and catalysts on cyanide degradation. Cyanide degradation by hydrogen peroxide was found to follow first-order kinetics. Reaction rates increased with increasing pH and decreasing temperature. The activation energy for cyanide degradation by hydrogen peroxide was found to be 13.81 kJ/mol. The addition of Cu2+ or Cd2+ as catalysts resulted in increasing reaction rates. In alkaline conditions, the catalytic effects of Cu2+ or Cd2+ were accelerated and Cu2+ was found to be a more effective catalyst than Cd2+.