Supercritical water oxidation of wastewater containing EDTA

인정현, 이현철, 이창하*, 강덕원[1], 이홍주[1]
연세대학교; [1]한전전력연구원 원자력연구실
(leech@yonsei.ac.kr*)

Chemical decontamination is used to remove radioactive materials accumulated within system of nuclear power plant. Decontamination been using current by EDTA(Ethylenediaminetetraacetic acid) etc., mainly, it needed treatment of wastewater containing EDTA. EDTA, a model pollutant, was oxidized by sub- and supercritical water at at temperatures of 250℃ ~ 500℃, pressures of 250bar, H2O2 of 0% ~ 400% as oxidant, and residences time of 14s ~ 110s, in a plug flow reactor. The decomposition efficiencies at sub- and supercritical water oxidation were 25% ~ 99.99%, respectively.