Efficiency of Hydroxyl Radical Production of Gamma-ray Treated Bentonite

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Abstract

Bentonite was treated by gamma-rays in various conditions, and the change of the catalyst was characterized by EPR spectroscopy. EPR spectra of bentonite gave a peak with g = 2.005. The intensity of the peak was inversely proportional to the efficiency of hydroxyl radical production, and non-treated bentonite showed the most efficient production. Decomposition of PCE (tetrachloroethylene) was largely dependent on the efficiency of hydroxyl radical production.