

## A Combined Study of Oxidation of Cerium (III) to Cerium (IV) in Nitric Acid Medium and Destruction of Phenol by Ozone

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The complete degradation of phenol in aqueous medium by using ozone and cerium (IV) mediator ion has been studied. The efficiency of the ozone system used was determined for cerium (III) oxidation in nitric acid medium and for phenol degradation. Within the limits of the ozone dosages used, it can be said that the use of ozone for the oxidation of cerium (III) and for the destruction of phenol was efficient. The simultaneous feeding of cerium (III) and organic to the reactor resulted in good destruction yields of the organic compound in a short time. It was observed that a significant difference exist in ozone amount consumed for conversion of cerium (III) and for combined cerium oxidation and phenol degradation. It can be concluded that the combined system of ozone and cerium oxidized cerium (IV), was found to be more effective than ozone treatment alone for the destruction of organics.