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Simultaneous Removal of 2,4,6-Tribromophenol from Water and Bromate Ion Minimization by Ozonation

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Highlights

- Ozone initiated debromination of 2,4,6-tribromophenol
- Efficiency higher in basic conditions than in neutral or acidic
- Complete mineralization in basic water or with high ozone dose
- The presence of CO_3^{2-} in basic water minimized BrO_3^- formation.
- > 10% H_2O_2 was able to effectively decrease BrO_3^- formation in water

Abstract —The study investigates the degradation of 2,4,6-tribromophenol (2,4,6-TBP) and the influence of solution pH, alkalinity, H_2O_2 and O_3 dosage. Debromination efficiency of 2,4,6-TBP was the highest in basic water (pH = 10.61). The extent of TOC removal compared favourably with the amount of substrate converted, suggesting favourable mineralization of