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**Complete mineralization of organic pollutants in water by treatment with air  
non-thermal plasma**

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**Abstract**

The first result of complete mineralization of organic pollutants in water treatment by a plasma-based advanced oxidation process is reported. A dielectric barrier discharge reactor was used to study the effects of the pollutant initial concentration on the process rate and on the extent of mineralization. Using phenol as a model pollutant extensive product studies and carbon mass balance were performed with an integrated analytical approach. Notably, the concentrations of phenol and of its major oxidation intermediates were determined at different treatment times by

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