

Special Issue Reprint

Application of Advanced Oxidation Processes

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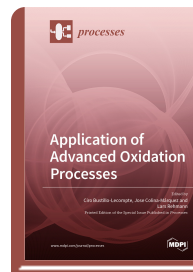
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The increasingly stricter standards for effluent discharge and the decreasing availability of freshwater resources worldwide have made the development of advanced wastewater treatment technologies necessary. Advanced oxidation processes (AOPs) are becoming an attractive alternative and a complementary treatment option to conventional methods. AOPs are used to improve the biodegradability of wastewaters containing non-biodegradable organics. Besides, AOPs may inactivate pathogenic microorganisms without adding additional chemicals to the water during disinfection, avoiding the formation of hazardous by-products. This Special Issue of Processes aims to cover recent progress and novel trends in the field of AOPs, including UV/H₂O₂, O₃, sulphate-radical oxidation, nanotechnology in AOPs, heterogeneous photocatalysis, sonolysis, Fenton, photo-Fenton, electrochemical oxidation, and related oxidation processes. The topics to be addressed in this Special Issue of Processes may also include the application of AOPs at various scales (laboratory, pilot, or industrial scale), the degradation of emerging contaminants in water and wastewater and pollutants in the gas phase, the quantification of toxicity in residuals, the development of novel catalytic materials and of hybrid processes, including the combination of AOPs with other technologies, process intensification, and the use of photo-electrochemical processes for energy production.

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