عنوان مقاله:

A comprehensive study on wastewater treatment by the peroxone process: Applications and improvements

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نویسندگان:

Amir Parhizgar - *Department of Chemical Engineering, School of Chemical and Petroleum Engineering, ShirazUniversity, Shiraz, Iran*

Mehrzad Feilizadeh - *Associate Professor, Department of Chemical Engineering, School of Chemical and PetroleumEngineering, Shiraz University, Shiraz, Iran*

خلاصه مقاله:

In this study, the effect of the peroxone process on wastewater treatment has been investigated. Advanced oxidation processes are practical methods for treating wastewaters efficiently. These processes have received much attention due to their ability to degrade various pollutants without phase change. Ozonation is one of the most significant processes among these methods due to its simplicity, good oxidation ability, and non-toxicity. However, this process is not able to degrade many organic compounds thoroughly. Hence, several alternative methods have been utilized to overcome this problem, such as catalytic ozonation, photolytic ozonation, and the peroxone process. The peroxone process is the reaction of ozone with hydrogen peroxide, in which a high amount of hydroxyl radicals are produced. Thus, the oxidizing capability is significantly increased, and H۲O۲ acts as a modifier that can lead to higher efficiency. Moreover, the addition of hydrogen peroxide to the ozonation process causes a lower requirement of O۳ and may lead to a reduction in operational costs.

کلمات کلیدی:

Advanced oxidation processes, Ozonation, Peroxone process, Wastewater treatment