

RESEARCH PAPERS

Wet Oxidation of PVA-Containing Desizing Wastewater

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摘要 Polyvinyl alcohol (PVA)-containing desizing wastewater was treated by various wet oxidation methods. Parameters such as reaction temperature, initial solution pH, and the dosage of H₂O₂ were investigated in terms of chemical oxygen demand (COD_{Cr}) and total organic carbon (TOC)

removal rate. Up to 90% of the initial COD_{Cr} was removed by wet air oxidation (WAO) at 270 °C with stoichiometric oxygen supply. While at temperature of 200 °C, the COD_{Cr} removal rate was

found to be 80%. Similar results were obtained by promoted WAO (PWAO) and wet peroxide oxidation (WPO) at a lower temperature of 150 °C. Reaction temperature was found to have a significant effect on the oxidation performance for all the methods. Initial solution pH was observed to play a significant role in PWAO and WPO where H₂O₂ was employed. Comparison of WAO, CWAO (catalytic wet air oxidation), PWAO and WPO shows that the rate of COD_{Cr} removal

increases in the order: WAO, CWAO, PWAO and WPO.

关键词 [textile wastewater](#) [wet oxidation](#) [wet peroxide oxidation](#)

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Key words [textile wastewater](#); [wet oxidation](#); [wet peroxide oxidation](#)

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