

4. CONCLUSIONS

An A/O-MBR-contact oxidation method was carried out for short-chain nonylphenol polyethoxylates degradation experiment and effect on system was evaluated to optimize the operation parameters. Through the analysis of the removal effect on conventional pollutants and short-chain nonylphenol ethoxylates degradation effect, the following results were achieved:

(1) COD removal rate was average at 85% in system, during sludge incubation period was above 95%. $\text{NH}_4^+\text{-N}$ average removal rate was 92%. The total NPEO₀₋₅ average degradation rate was above 98%.

(2) The operation parameters were selected as evaluation index for orthogonal experiment. For total NPEO₀₋₅, the largest influence factor was dissolved oxygen, followed by temperature and hydraulic retention time. The influence of critical parameters on contaminants removal was different, but the microorganism in system had good degradation stability.

(3) The optimum operation parameters of the A/O-MBR-contact oxidation system were temperature of 33 °C, dissolved oxygen of 5mg/L and HRT of 24h.

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