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Comparison of Non-Organic (Suspended and Solved) Solids Removal with and without Sediments in Treatment of an Industrial Wastewater with and without Ozonation

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Abstract : In this research, removal of Non-Organic Suspended Solids and Non-Organic Solved Solids with and without sediment in treatment of an industrial wastewater system before and after ozonation was studied and compared. The most hazardous part of these substances is monomers of chlorophenolic combinations which in biological reactors in a liquid phase could be absorbed much easier and with a high velocity. These monomers and particularly monomers with high molecular weights are seen a lot in such wastewater treatment systems. After the treatment, the measured non-organic solved and suspended solids contents in the cyclic ozonation-biotreatment system compared to the non-organic solved and suspended solids values in the treatment method without ozonation. Sedimentation was the other factor which was considered in this experiment.The solids removals were measured with and without sediments. The comparison revealed that the remarkable efficiency of the cyclic ozonation-biotreatment system in removing the non-organic solids both with and without sediments is extremely considerable. Results of the experiments showed that ozone can be dramatically effective for solving most organic materials in activated sludge in such a wastewater or for making them mineral. Moreover, bio dissolubility increase related to the solved materials was reported.

Keywords : non-organic solids, ozonation, sediment, wastewater treatment
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