A comparison between extended aeration sludge and conventional activated sludge treatment for removal of linear alkylbenzene sulfonates (Case study: Kermanshah and Paveh WWTP)

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ABSTRACT

Linear alkylbenzene sulfonates (LASs) are anionic surfactants with extensive application as detergents. Discharge of wastewater containing these chemicals results in negative environmental impacts. In the present study, the process performance of an extended aeration activated sludge (EAAS) system in Paveh's wastewater treatment plant (WWTP) and a conventional activated sludge (CAS) system in Kermanshah's WWTP removing LAS and chemical oxygen demand (COD) were compared. The amounts of LAS removal in the CAS and the EAAS systems were calculated as 93.73 and 96.7\%, respectively. It was concluded that EAAS system may be used for treating municipal wastewater with better LAS, COD, and total suspended solids (TSS) removal efficiency compared with CAS system.

Keywords: LAS; Wastewater treatment; Conventional activated sludge; Extended aeration