

## Documents

Emamjomeh, M.M., Mousazadeh, M., Mokhtari, N., Jamali, H.A., Makkiabadi, M., Naghdali, Z., Hashim, K.S., Ghanbari, R.

**Simultaneous removal of phenol and linear alkylbenzene sulfonate from automotive service station wastewater: Optimization of coupled electrochemical and physical processes**

(2020) *Separation Science and Technology (Philadelphia)*, 55 (17), pp. 3184-3194. Cited 12 times.

**Abstract**

This work investigates the feasibility of the coupled electrochemical (electrocoagulation/flotation) and physical processes (sedimentation, sand filtration, and activated carbon) for the treatment of automotive service wastewater (ASWW). The impacts of critical parameters, viz. pH solution, reaction time and current intensity on linear alkylbenzene sulfonate (LAS), and phenol removal efficiencies as well as energy consumption and operating cost are studied. Central composite design results reveal that at the optimum conditions, LAS and phenol removal efficiencies, energy consumption and operating cost are obtained 96.7%, 87.65%, 15.99 Wh, 0.001 US\$, respectively. This process reveals a feasible technology for phenol and LAS removal from ASWW. © 2019 Taylor & Francis Group, LLC.

**Author Keywords**

Automotive service station; Electrochemical/physical processes; LAS removal; optimization; phenol removal

**Index Keywords**

Activated carbon, Activated carbon treatment, Energy utilization, Filling stations, Operating costs, Optimization, Phenols, Wastewater treatment; Central composite designs, Current intensity, Electro coagulations, LAS removal, Linear alkylbenzene sulfonates, Optimum conditions, Phenol removal, Simultaneous removal; Chemicals removal (water treatment)

2-s2.0-85074339606

**Document Type:** Article

**Publication Stage:** Final

**Source:** Scopus