Abstract

Car washing services are currently emerging in various city. Mostly, the car wash industry discharge their waste into the waterways directly without prior treatment. The wastewater containing high content of surfactants, derived from the use of detergent to clean cars. High content of surfactant in the waterways will cause a decrease of the water quality. So we need a treatment to reduce levels of pollutants such as the levels of COD and surfactants, as we analyzed, by using slow sand filter and activated carbon adsorption.

This study aimed to determine the removal efficiency of slow sand filter - activated carbon, by varying the concentration of wastewater and the type of sand as filter bed media. In the preliminary study, known the level of COD is 768 mg / l and Surfactants 25.32 mg / l. Based on the recent analysis, slow sand filter removal efficiency of COD reached 72.1% and 63.6% of surfactants. However, the use of activated carbon increase the removal efficiency to 84% for COD and 72% for the surfactant. Thus, the treatment using slow sand filter and activated carbon is good enough to use in car washes waste water treatment.

Key words: slow sand filters, COD, surfactants, adsorption and activated carbon.