

Heavy Metal Contents in Highway Runoff in Malaysia

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Pavement runoff is considered as one of the major non-point pollution sources of heavy metals from typical urban areas. Storm runoff from five highway toll plazas located within the Klang Valley is being collected to study the heavy metal content. This study reports the initial findings on the common metallic pollutants, namely Lead (Pb), Zinc (Zn) Copper (Cu), Nickel (Ni), Cadmium (Cd), Chromium (Cr) from the selected highways in Malaysia. Event Mean Concentration (EMC) was calculated to compare the runoff quality with the National Water Quality Standards (NWQS) and industrial Effluent Quality Standards (EQA) of Malaysia. The average EMC values of the selected heavy metals are below the allowable limits stipulated in the NWQS and EQA. However, based on the initial results, the EMC of Cadmium (0.019 mg/L) in highway runoff from the Sg. Buloh Toll was higher than that of the Class II of the NWQS (0.010 mg/L). Low concentration of selected metals in the highway runoff could be attributed to less input from the vehicles or high rainfall amount, which causes dilution.

Keywords: Highway, Rainfall, Runoff Quality, Storm Event.

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