

## **Occurrence, distribution, and sources of emerging organic contaminants in tropical coastal sediments of anthropogenically impacted Klang River estuary, Malaysia**

### **ABSTRACT**

This baseline assessment reports on the occurrence, distribution, and sources of emerging organic contaminants (EOCs) in tropical coastal sediments of anthropogenically impacted Klang River estuary, Malaysia. Bisphenol A was the highest concentration detected at 16.84 ng g<sup>-1</sup> dry weight, followed by diclofenac (13.88 ng g<sup>-1</sup> dry weight) and E1 (12.47 ng g<sup>-1</sup> dry weight). Five compounds, namely, amoxicillin, progesterone, diazinon, bisphenol A, and E1, were found in all sampling stations assessed, and other compounds such as primidone, diclofenac, testosterone, E2, and EE2 were ubiquitously present in sediment samples, with percentage of detection range from 89.04% to 98.38%. Organic carbon content and pH were the important factors controlling the fate of targeted compounds in the tropical estuarine sediment. On the basis of the literature from other studies, the sources of EOCs are thought to be from wastewater treatment plants, domestic/medical waste discharge, livestock activities, industrial waste discharge, and agricultural activities.

**Keyword:** Emerging organic contaminant; Klang River estuary; Malaysia; Tropical estuarine sediment; Endocrine-disrupting compound; Baseline.