

Distribution of petroleum hydrocarbons in aquaculture fish from selected locations in the Straits of Malacca, Malaysia

ABSTRACT

A study has been conducted at selected locations along the Straits of Malacca on twelve aquaculture fish samples to determine the level of hydrocarbon pollution in the fishes. The homogenized fish tissues were extracted using soxhlet, fractionated and analyzed by using GCMS. Hopanes and PAHs were detected and were found in the range of 57.59 to 9610.31 ng/g (dry weight). Two samples were identified as Sumatera originated while the source for other samples cannot be determined. Additionally, ratio MP/P was used to determine the anthropogenic PAHs sources where six stations were found to be polluted by petrogenic sources while the other six stations were from pyrogenic sources. The MP/P ratio shows strong positive correlation with total PAHs with an r^2 value of 0.79. Further analysis is needed in order to identify the sources of oil pollution in ten fish samples with unidentified oil sources.

Keyword: Hopanes; Polycyclic aromatic hydrocarbons; Diagnostic ratios; Aquaculture fish