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Abstracts

SEASONAL VARIATION OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) IN THE THAI/LAOS MEKONG RIVER, 2003-2004

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Abstract

The great change in the water level of the Mekong River in each season creates the variation in many environmental factors including polycyclic aromatic hydrocarbons (PAHs). Seasonal monitoring of PAHs in water samples from 10 sampling stations along Thai/Laos Mekong River in April 2003-January 2004 from Golden Triangle to Kongchiam were analyzed. Quantitative analysis of the 16 priority PAHs namely, naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo[*a*]anthracene, chrysene, benzo[*b*]fluoranthene, benzo[*k*]fluoranthene, benzo[*a*]pyrene, dibenzo[*a,h*]anthracene, benzo[*g,h,i*]perylene and indeno[*1,2,3,cd*]pyrene were performed. Each PAH was extracted from water sample using SPE C₁₈-column and eluted by hexane. The amount of each PAH was determined by EPA 8310 using HPLC-UV. The results show that there are variations of type of PAHs in each station at various seasons. The total PAHs in dry season (April 2003) was in the range of 0.0090-6.1084 ppm, in raining season (August 2003) was in the range of 0.0376-1.2554 ppm and cold season (January 2004) was in the range of 0.0431-1.5193 ppm. Although the PAHs concentration in water is low but it does not taken into account the bioaccumulation factors which range from 69-29,000 for the PAHs analyzed.

Keywords: seasonal monitoring, Thai/Laos Mekong River, polycyclic aromatic hydrocarbons

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