

## Paper 18

### ASSESSMENT OF POLYCYCLIC AROMATIC HYDROCARBONS IN LOCALLY SMOKED FISH SOLD IN LAGOS MARKETS

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#### ABSTRACT

Polycyclic aromatic hydrocarbons (PAHs) are known widespread contaminants which represent an important group of carcinogens. This study reports the concentrations of PAHs in smoked fishes locally sold in two markets in Lagos state, Nigeria. The amounts of PAHs present in the samples were quantified using gas chromatography coupled with flame ionization detector (GC-FID). The total concentration of PAHs detected in each sample are 127.5, 86.06, 58.39 and 101.58  $\mu\text{g}/\text{kg}$  dry weight for the following fish species respectively; *Scomberomorus tritor*, *Tilapia guinensis*, *Ilisha africana* and *Clarias gariepinus*. Benzo[a]pyrene was present in all the samples and the concentration exceeds the permissible limit of 5.0  $\mu\text{g}/\text{kg}$  except in one of the fish species. The abundance of high molecular weight PAHs in three of the fish species suggests that pyrolysis was the method used in the smoking process. From the maximum limit set by the European Commission for the sum of PAH, only *S. tritor* exceeded the 30  $\mu\text{g}/\text{kg}$  limit with 54.68  $\mu\text{g}/\text{kg}$  present.

**Keywords:** PAHs, Benzo(a)pyrene, Gas Chromatography, smoked fish