

Title of Article in Conference Proceedings: Carcinogenicity and Mutagenicity Assessments of Dietary Exposure to PAHs in Imported Fish Products in Nigeria.

Authors: Nsikak U. Benson, Akan B. Williams, Winifred U. Anake, Kelechi P. Eke, Adebusayo E. Adedapo and Abaas A. Olajire (2016).

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Abstract: Polycyclic aromatic hydrocarbons (PAHs) occurrence and assessment of dietary exposure from imported canned sardines (*Sardinops sagax*) commercially marketed in local stores and supermarkets in Nigeria were evaluated for the first time. PAHs determinations were performed using high performance liquid chromatography (HPLC) (Agilent 1290 model) equipped with UV-VIS diodes array detector (DAD) at $\lambda = 210$ nm and 214 nm. The percentages recoveries were higher than 96%. The degree of contamination expressed as total concentrations of PAH (TPAHs) congeners ranged between 2.53 and 35.55 $\mu\text{g kg}^{-1}$ dry weight (d.w.) at $\lambda = 210$ nm, and 1.30 and 27.93 $\mu\text{g kg}^{-1}$ (d.w.) at $\lambda = 214$ nm. The carcinogenic (BaP-TEQ) and mutagenic toxicities (BaP-MEQ) of eight priority PAHs were evaluated. Benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene and indeno(1,2,3-d) pyrene contributed significantly to the total carcinogenic equivalents of PAHs. The mutagenic equivalents were largely influenced by equivalence factors of benzo(a)anthracene, and benzo(a)pyrene and indeno(1,2,3-d) pyrene. The estimated daily intake (EDI) and excess cancer rate (ECR) were evaluated for adults and children exposure related risks.