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Review

An overview on the accumulation, distribution, transformations, toxicity and analytical methods for the monitoring of persistent organic pollutants

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ABSTRACT

Recent years have seen an upsurge of interest in developing low cost and reliable methods for the detection and precise determination of ultra-trace concentrations of persistent organic pollutants (POPs), because of their bioaccumulation, transformation and toxicity. Therefore, a comprehensive review with 108 references referring to the distribution, source, accumulation, transformation, types and toxicity of polychlorinated biphenyls (PCBs) and organochlorine pesticides (OCPs) is presented. The review also aims to highlight on the current best practices for the analysis of PCBs and OCPs. Moreover, with the signing of the Stockholm convention on POPs and the development of global monitoring programs, there is an increased need for laboratories in developing countries to determine such class of chemicals. A major focus revealed the need for low cost methods that can be implemented easily in developing countries such as electrochemical techniques.

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