

SOURCES AND BIOACCUMULATION OF TOXIC ORGANIC POLLUTANTS IN THE ENVIRONMENT: A REVIEW ON CURRENT SCENARIO

BULBUL GUPTA & JASPREET KAUR

Department of Biotechnology, U.I.E.T, Panjab University, Chandigarh, India

ABSTRACT

Persistent organic pollutants (POPs) and other persistent hazardous compounds such as hexachlorocyclohexane (HCH), polyaromatic hydrocarbons (PAHs) and polybrominated diphenylether (PBDEs) have serious health effects due to their toxicity and high tendency to get accumulated in the environment. This paper reviews the prominent sources and distribution of persistent organic pollutants including both natural and anthropogenic sources, responsible for their tenacity in the environment. Their occurrence and abundance in soils, marine sediments, groundwater, aquifers, consumable food items and the atmosphere has been highlighted here. Their persistence in the environment is because of very slow or lack of degradability. POPs can persist for many decades and possibly centuries. Thus it is posing a serious threat to the ecosystems and high risk of contamination of food chains, ground water, drinking water, together with marine ecology. Presence of pesticide residues in the human breast milk, consumable items as well as their bioaccumulation in the water bodies present an alarming situation that needs regular monitoring, assessment and reporting in accordance with appropriate environmental laws, policies and regulations to guarantee health of human and environment. In this paper the sources, world wide occurrence, distribution and toxicity of POPs has been reviewed.

KEYWORDS: Accumulation, Contaminant, Persistent Organic Pollutant, Poly Aromatic Hydrocarbon, Source