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OCCURRENCE OF PLASTIC WASTE IN THE ENVIRONMENT: ECOLOGICAL AND HEALTH RISKS

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Abstract

Environmental threats posed in the environment by plastic production and plastic wastes continue to be a major problem today, closely connected with the increase of plastics consumption by the population. Moreover, little efforts are involved in some parts of the world associated to plastic waste collection, recycling and reuse. Considering all these prerequisites, the identification and discussion of risks generated by plastic production and waste in the environment are performed in this paper and some measures for plastic waste reduction were proposed. Although plastic polymers are not considered toxic, some residual monomers contained in the materials can be hazardous. Also, many chemical compounds used in the plastics manufacturing as additives, in particular plasticizers are dangerous to human health and the environment, along with some degradation products that may be released during the plastic life cycle.

Bearing in mind the potential impacts and risks generated by these products in the environment and for humans, the paper highlights that the current requirements and tendencies are to reduce the need for plastic, the enhancement of recycling and recovering the waste, simultaneously with the replacement of plastic from fossil fuel with a continuous widening spectrum of biodegradable polymers. Bioplastics began to be recognized as a positive and important invention of chemical and plastics industry, providing many and varied opportunities for environmental impacts and risks abatement.

Key words: bioplastics, ecological risk, human health, plastic waste, recovery, risk analysis

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