PBDEs (Polybrominated diphenyl ethers) – Introduction and Issues

PBDEs (Polybrominated diphenyl ethers) were used as flame retardants in plastic materials and today, much of these plastic materials are still in use within the housing of the electrical and electronic equipment (EEE). This group of flame retardants is known to cause cancer, other illnesses and can disrupt human hormone system if it gets into the organism. Through careful recycling, this can be avoided. Unfortunately, PBDEs are still found in recycled plastics, for example in food contact articles. Food contact articles are plastics which are used to package or transport food, such as foils, one-way plastic cups, lids from thermo-cups and kitchen utensils. If they are produced from PBDE containing plastics, PBDEs may leach into food and drinks - especially at higher temperatures - and will then subsequently be taken up by the consumer.

Incineration at current technical standards is able to destroy PBDEs. There is a need for high burning temperature and flue-gas cleaning otherwise the toxic products of PBDEs will appear in air emissions.

To prevent the harm caused by PBDEs, EEE needs to be collected separately. That way, plastics suspected to contain PBDEs can be separated from the clean plastics. Typical plastics that may contain PBDEs are from CRT computer monitors and TVs. Clean plastics should be recycled for environmental benefit, while the contaminated plastics should be treated in suitable plants.

Tags:

Collection, Recovery of Material, Further Treatment and Final Sink, Environment and Health - All, Secondary Resources - Plastics