

BROMINATED FLAME RETARDANTS IN FOOD ORIGINATING FROM E-WASTE RECYCLING SITES IN EASTERN CHINA.

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Poster presentation

Rudimentary recycling of electrical and electronic wastes (e-waste) in Taizhou, a major e-waste recycling area in Eastern China, has resulted in severe environmental contamination by toxic and persistent chemicals, including polybrominated diphenyl ethers (PBDEs). These contaminants can also enter the food chain through foraging by locally reared animals or aquatic organisms causing chronic human exposure at e-waste recycling areas. Studies of dietary human exposure to emerging or novel BFRs are scarce. The current study investigated human dietary exposure to hexabromocyclododecanes (HBCDs), pentabromoethylbenzene (PBEB), hexabromobenzene (HBB), 2-ethylhexyl-2,3,4,5-tetrabromobenzoate (EHTBB), bis-(2-ethylhexyl)-3,4,5,6-tetrabromophthalate (TBPH), 1,2 bis(2,4,6-tribromophenoxy)ethane (BTBPE), and decabromodiphenyl ethane (DBDPE). This was achieved via analysis of animal-based foods originating from Taizhou, including meat, livers and eggs from chickens and ducks, as well as fish, shrimps, and pork. As controls, samples of food from non-e-waste related areas in China were also analyzed, along with samples of locally-used culinary oils. The highest estimated dietary exposure was to HBCDs for both adults and children. Major contributors of HBCDs exposure were chicken meat and eggs, followed by fish, for both adults and children. Pork was the primary contributor to dietary TBB exposure.