

comparisons offer a more comprehensive assessment of various chemicals. This extensive study adds information regarding the toxicological effects of flame retardant contamination within three vulnerable regions. The study allowed the evaluation of spatial trends, age and temporal trends, and tissue partitioning [9,10].

Flame Retardants: Alternatives and Legacy in Marine Mammals from Three Northern Ocean Regions

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Abstract

Flame retardants are widely dispersed pollutants that have been connected to detrimental impacts on human and wildlife health. One of the many man-made factors endangering the health of the population is the bioaccumulation of

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connected to detrimental health effects, such as endocrine disruption, in both humans and wildlife [3].

Certain flame retardants, like polybrominated diphenyl ethers (PBDEs), have been outlawed in numerous nations due to their extensive use, environmental persistence, and proven health risks. But since PBDEs are illegal, more chemicals that were previously Atlantic and the Baltic have a long history of contaminating the environment [6-8].

Nine marine mammal species were used to obtain blower samples: grey seals (*Halichoerus grypus*), harbor seals, ringed seals (*Pusa hispida*), harbor porpoises (*Phocoena phocoena*), white-sided dolphins (*Lagenorhynchus acutus*), white-beaked dolphins (*Lagenorhynchus albirostris*), minke whales (*Balaenoptera acutorostrata*), long-finned pilot whales (*Globicephala melas*), grey seals, and humpback whales (*Megaptera novaeangliae*).

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The NW Atlantic had the highest concentrations of PBDEs, followed by the Baltic and the Arctic. This is likely due to the fact that North America has historically used more PBDEs than Europe,

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and that North America and the Baltic countries have become more industrialized than the Arctic. Other compounds exhibited more intricate regional patterns, with notable interactions between species, regions, body condition, and age class. The distribution of these compounds is influenced by factors other than lipid dynamics, as evidenced by the similar lipid-normalized PBDE concentrations in the liver and blubber of harbor seals, but higher concentrations of HBBZ and many Dechloranes. The possible health effects of this combination of compounds are alarming and need more investigation.

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