Occurrence of halogenated flame retardants in commercial seafood species available in European markets - DTU Orbit (08/08/2019)

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PBDEs (congeners 28, 47, 99, 100, 153, 154, 183, 209), HBCD (α, β, γ), emerging brominated flame retardants (PBEB, HBB and DBDPE), dechloranes (Dec 602, 603, 604, syn- and anti-DP), TBBPA, 2,4,6-TBP and MeO-PBDEs (8 congeners) were analysed in commercial seafood samples from European countries. Levels were similar to literature and above the environmental quality standards (EQS) limit of the Directive 2013/39/EU for PBDEs. Contaminants were found in 90.5% of the seafood samples at n. d.-356 ng/g lw (n. d.-41.1 ng/g ww). DBDPE was not detected and 2,4,6-TBP was detected only in mussels, but at levels comparable to those of PBDEs. Mussel and seabream were the most contaminated species and the Mediterranean Sea (FAO Fishing Area 37) was the most contaminated location. The risk assessment revealed that there was no health risk related to the exposure to brominated flame retardants via seafood consumption. However, a refined risk assessment for BDE-99 is of interest in the future. Moreover, the cooking process concentrated PBDEs and HBB.

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