

672 Distribution of organophosphate flame retardants in Mediterranean common dolphin tissues G. Santín, IDAEA-CSIC / Environmental Chemistry; C. Corcellas, IDAEA / Department of Environmental Chemistry; J. Gimenez, R. de Stephanis, Estación Biológica de Doñana (CSIC) / Department of Conservation Biology; E. Eljarrat, IDAEA-CSIC / Department of Environmental Chemistry; D. Barcelo, IIQAB-CSIC / Dept Environmental Chemistry. **Abstract** Flame retardants (FRs) are widely used to increase the fire resistance of materials. Due to the ban of polybrominated diphenyl ethers by the Stockholm convention in 2009, the FRs industry has been using other families of FRs, such as organophosphate FRs (OPFRs). These OPFRs are used in a wide variety of materials as FRs and also as plasticizer, which finally end up in the aquatic ecosystems contaminating sediments as well as biota. OPFRs can cause a delayed neuropathy, which can lead to irreversible paralysis. Besides neurotoxicity, OPFRs are also known for being endocrine disruptors and carcinogenic. OPFRs have been found in environmental samples (indoor air, house dust, drinking water, river water and sediment) as well as in some biota (fish, mussels and bird eggs) and human samples to date. There are not enough data to conclude a specific way of bioaccumulation. The purpose of this study is to assess for the first time the occurrence and levels of 16 OPFRs in common dolphin samples from Alboran Sea (Spain). Moreover, the distribution of OPFRs in different dolphin tissues (blubber, muscle, liver, brain and kidney) is investigated. OPFRs were detected in all samples. Total OPFR concentrations were between not quantified (NQ) to 24.7 µg/g lw. Thirteen out of sixteen tested analytes were detected. Only V6, TDCPP and TBNPP were not detected, and TEHP was detected but at levels below the limit of quantification. The highest concentration levels were obtained for IPPP, IDPP, TCPP and TPhP. As regards the detection frequency, TBEP was the most frequent compound, with 88% detection frequency, followed by TBP. The most contaminated sample was a brain tissue in which IDPP was reached a concentration of 18.3 µg/g lw. The most contaminated tissue in terms of total OPFR concentration is blubber, with a median concentration of 127 ng/g dw. This means that these compounds apparently have the same bioaccumulation behavior as other FRs such as PBDEs. The next most contaminated tissue was muscle, followed by brain, kidney and finally liver. **Keyword:** organophosphorus flame retardants, marine ecosystem, common dolphins. Track and session: F - Identification and prioritization of emerging contaminants. Emerging Contaminants in the Marine Environment: Presence, Effects, Regulation. Presentation preference: **platform**