

## **NEW INSIGHTS IN DISTRIBUTION AND ACCUMULATION PATTERNS BETWEEN VARIOUS PERFLUORO CHEMICALS**

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Although more information becomes available on the distribution of perfluorinated compounds (PFCs) in marine mammals, it is for the first time that animals from the Dutch Wadden Sea are analysed. Liver, kidney, blubber, muscle and spleen tissue of stranded harbour seals (*Phoca vitulina*) at the island Texel, were evaluated on their fluorinated contamination burden and stable isotope measurements were conducted on muscle tissue. This study gives proof of renovation due to the analysis of different tissues from the same animal and due to the detection of some short- and long-chained perfluorochemicals. Perfluorooctane sulfonate (PFOS) was the predominant compound in all seal samples measured (ranging from 8.85 to 2724 ng.g<sup>-1</sup> wet weight), although large variations between tissues were monitored. To our knowledge, it is for the first time, that perfluorobutane sulfonate (PFBS) could be found at detectable concentrations ( $2.34 \pm 0.68$  ng.g<sup>-1</sup> w wt) in wildlife. PFBS was only measured in spleen tissue. The dominant perfluorinated carboxylic acids (PFCA) in all tissues was perfluorononanoic acid (PFNA), and concentrations generally decreased for all other PFCA homologues with increasing chain length. Based on the data of the stable isotope measurements, a strong relation between the accumulation of PFOS in kidney and the trophic level on which these seals feed, can be detected. Furthermore, concentrations of PFOS in the liver increase with age, but are independent of the gender. This might give a first indication about the difference in tissue distribution and accumulation patterns between various perfluorinated chemicals.