**Obsolete pesticides in North Atlantic surface seawater 2015**

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Persistent insecticides are nowadays banned in most countries. Similar to other persistent organic pollutants, most of these substances have hardly been primarily emitted since several decades, but their concentrations are only slowly decreasing in the global oceans 1, or might even re-rise 2. Unlike on continents of the northern hemisphere and the Arctic, no systematic chemical monitoring of the oceans is in place at all. E.g., no measurement of DDT in seawater of the open Atlantic was done since 1990 3 and no measurement of endosulfan ever.

Seawater samples were collected from the central and western North Atlantic Ocean, 2 from the Azores region and 4 from a transect from the Azores to Jamaica (38-24°N/28-70°W) onboard RV Meteor in January-February 2015. The unfiltered water samples (17-32 L) were spiked with an internal standard, extracted in a XAD-2 column, eluted with dichloromethane and analysed by GC-MS.

Penta- and hexachlorobenzene ranged 2.1-6.1 pg L-1. *β*- and *γ*-isomers accounted for 1.3-5.8% and 85-90% of HCH, respectively, which concentration level ranged 90-627 pg L-1. DDT was found at ≈2 pg L-1 (sum of 2 isomers) in the Azores region. These values differ from previous findings in the North Atlantic. DDE and DDD isomers (LOQ = 0.3-2.4 pg L-1), aldrin (12 pg L-1), mirex (3 pg L-1), chlordane (5 pg L-1) and endosulfan isomers (17-32 pg L-1) were not detected. The endosulfan concentration was below peak levels found in the western North Pacific Ocean 4.

The comparison with global multicompartment chemistry-transport model predictions of surface seawater levels indicate the underestimation of DDT degradation 2 and the overestimation of endosulfan primary emissions (unpublished model data).

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