

## **Concentration of Endocrine Disruptors in Core Sediments from Harima-nada Located in Seto Inland Sea, Japan**

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Recently, nonylphenol (NP) and bisphenol A (BPA) are focused as endocrine disruptors. The annual output of alkylphenol in Japan is about 65000. And it assumes that annual output of NP is about 20000 ton. And, BPA was a raw material of polycarbonate and epoxy resin. These resins were used widely for much container and it was reported that BPA dissolved out from these container. It seems that the declining pattern of the emission of NP and BPA to water environments can be described by the improvement of the swage treatment from 1970. Harima-nada is an enclosed water area, which faced medium-sized city named Himeji and Akashi City. There is an industrial area from Himeji over the Akashi City, and the Himeji City has high population. Though detergents for household have not mixed the non-ion surfactant including NPEOn by the self-restraint of the domestic manufacturer in Japan, there is much use on the cleaning of the equipment in factories, etc.

In this present study, two core samples were collected from the sea bottom in the Harima-nada, which is located in Seto inland sea on September sixth, 2000. The samples were collected about 50cm used by the core sampler from the at-sea. The core samples were subdivided at the 1cm unit from surface layer, and nonylphenol and BPA in each sample were measured. In the same time, Cs-137 in each sediment was measured for the determination of its age. It was reported that the data by Cs-137 though the technique which made the peak in 1954 or 1963. In this present study, the peak Cs-137 in 1986 was used. The Cs-137 peak in 1986 is based on the high emission of Cs came from Chernobyl Nuclear Accident, and it is reported that the emission proportion is also described with 13% higher than other radio nuclide. Therefore, Sediment of the depth with this peak was considered as the sediment in 1986. And, it was compared with the data used by Pd-210 technique. And It thought that the stability of NP and BPA in the bottom sediments in water environments.

In this result, NP and BPA exist during 20 years in the sediments from sea bottom in Harima-nada. It was confirmed that there was clear relation on the consumption and NP concentration in the sediments. But there was not clear relation on consumption and BPA concentration in sediments. It is very difficult to discharge to the ocean in an enclosed water area like Harima-nada. Thus, it is necessary to investigate the concentration of NP and BPA in soil and water.