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**Transport of Styrene Oligomers (SOs) derived from polystyrene plastic into ocean by precipitation in Tokyo Bay**

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Plastic pollution is considered one of today's main environmental problem and pollutants in natural environments. Polystyrene (PS), one of the representative plastics, is an environmental concern. However, an assessment of the transport of styrene oligomers (SOs) from land to ocean has yet to be performed. Here, we show that anthropogenic SOs, an indicator of PS contamination in the environment, can migrate from land to sea by runoff and weather events such as rain and typhoon. All samples of sand and seawater taken from the coastline of the Tokyo Bay were found to contain SOs such as styrene monomer (SM), styrene dimers (SD), and styrene trimer (ST), in which these concentration distribution was in the order of ST>SD>SM. In particular, the pollution of SOs along the Tokyo Bay was relatively severer than those in other regions. The Tokyo Bay seems be considered as transporting high SOs through weather events, i.e., rain and runoff, which can reflect a heavily populated area and various land-based SOs sources connected with estuary. These findings are of interest from both the extent of PS plastic pollution and the transportation of SOs. Our results suggest that SOs pollutants are originating from the land-based sources to be present in the ocean, and along coasts from the land.

**Biography**

Bum Gun Kwon has completed his PhD from Gwangju Institute of Science and Technology (GIST) and Postdoctoral studies from Seoul National University. He is the Assistant Professor of Chosun College of Science and Technology. He has published more than 30 papers in reputed journals and has been serving as a reviewer of repute.

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