

Title of Research:

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Comprehensive evaluation methods for chemicals registered in PRTR.

Principal Investigator:

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Summary of Research:

This research is aimed at establishing formation potential methods for toxic chemicals including trihalomethanes, aldehydes, nitrosamines and perfluorinated carboxylic acids. These formation potential methods were applied to chemicals registered in PRTR, and these chemicals and their formation potentials and precursors were monitored in sewage treatment plants and urban rivers. In addition, factors that governed the behavior in the environment were also quantified through batch experiments. The behaviors and factors were used to develop a method to estimate the behavior and concentration of the chemicals in the urban river stretch.

Timeline: March 1, 2015 – February 29, 2016

Topics:

- 1) Poster presentation at 3rd Annual Conference of LRI (poster)
- 2) Norihide NAKADA, "Removal and formation of emerging pollutant in wastewater treatment process and their ecological influences", ICCL-LRI and EPA Workshop, New Orleans, LA, USA, 2015. (Oral)

Publications:

- 1) Norihide NAKADA, Shuhei ITAI, Seiya HANAMOTO, Hiroaki TANAKA, "Behavior of oxidation by-products and their formation potential in an urban river", The 24th Annual Conference of Japan Society for Environmental Chemistry, Sapporo, June 2015. (Oral)
- 2) Yuji SUZUKI, Shuhei TANAKA, Shigeo FUJII, Norihide NAKADA, Norimitsu SAITO, "Biodegradation of Fluorotelomer Alcohols and Formation of Perfluorocarboxylic Acids in Biological Treatment Processes", The 37th Annual Conference of the Association of Environmental & Sanitary Engineering Research, Kyoto, July 2015. (Oral)
- 3) Yuji SUZUKI, Shuhei TANAKA, Shigeo FUJII, Norimitsu SAITO, "Behavior of Perfluoroalkyl Carboxylates and Their Potential Precursors in Wastewater Treatment Processes", The 18th Symposium of Japan Society of Water Environment, Sendai, Japan, September 2015. (Oral)
- 4) Shuhei ITAI, Norihide NAKADA, Hiroaki Tanaka, Formation potential test for individual chemicals during oxidation processes. The 36th Annual Conference of the Association of Environmental & Sanitary Engineering Research, Kyoto, July 2014. (Oral, Poster)