

**Title of Research:**

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## **Title of Research: Development of Ecosystem Risk Impact Assessment System Methods for Chemicals using Microcosm Systems**

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**Summary of Research:**

In this research, research and development in the environmental impact risk assessment of a chemical substance was conducted paying attention to microcosm system which is an aquatic model ecosystem which consists of a producer (phytoplankton), a predator (zooplankton), and a decomposer (bacteria). The enactment as international guideline as OECD test of the general-purpose microcosm test method from Japan is aimed at by making the P/R (quantity of production/respiration) ratio which can indicate the change of the whole ecosystem into an assessment index. Although the environmental impact risk assessment examination of a chemical substance has been conventionally carried out using a single species creature, as for the model ecosystem examination which imitated the nature, the general-purpose standard test method is not established by problems, such as stability, high cost nature and reproducibility. In addition, the fundamental manual concerning test operation is already built (Funds for the Overall Promotion of Environmental Research -Ministry of Environment in FY2009-2011), and the ring test etc. which carried out the test between several research institutions for wide use, are turned to carry out to establish as the OECD standard test method.

**Timeline:** November 1, 2012 –

**Topics:**

2<sup>nd</sup> New LRI Research Report Meeting: "Development of Ecosystem Risk Impact Assessment System Methods for Chemicals using Microcosm Systems"

**Publications:**

Kunihiko Kakazu, Hideto Usui, Jun Kumada, Katsura Sugiura, Ryuhei Inamori, Yuhei Inamori : "Ecotoxicity Assessment of SDS with P,R (Production, Respiration) about Aquatic Microcosm", *Journal of Water and Waste*, Vol.54, No.9, pp.683-690 (2012).