

広島湾北部における有機スズ代替船底防汚剤による 海域の汚染状況について

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Contamination of an Alternative Antifoulant in Coastal Waters of Hiroshima Bay

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Summary

It is well known that organotin (OT) compounds, which are used as effective antifouling biocides, have deleterious effects on nontarget marine organisms when released into water from the coatings applied to boat hulls, and environmental studies have indicated OT contamination of the marine environment on a worldwide scale. In October 2001, the International Maritime Organization (IMO) adopted the International Convention on the Control of Harmful Antifouling Systems (AFS Convention), which prohibited the use of OTs as active ingredients in antifouling systems for ships. Following the international restrictions on the use of OT-based antifoulants, paint manufactures have developed many alternative products. In Japan, more than 20 chemical substances have been used or proposed as alternative compounds.

In the present study, Sea-nine211, KH101, Diuron, Irgarol 1051 and the latter's degradation product M1 were investigated in water from Hiroshima Bay.

Concentrations of Sea-nine211, Diuron, Irgarol 1051 and M1 in water samples were in the range of $<0.023\sim 0.10\ \mu\text{g}/\ell$, $<0.040\sim 0.43\ \mu\text{g}/\ell$, $<0.092\ \mu\text{g}/\ell$, $<0.031\sim 1.3\ \mu\text{g}/\ell$, respectively. KH101 was not detected in the water samples.

Key words: Antifoulant, Irgarol, M1, Diuron