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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 34033.1-2017

Ships and marine technology -- Risk assessment on anti-fouling systems on ships -- Part 1: Marine environmental risk assessment method of biocidally active substances used for anti-fouling systems on ships

船舶与海上技术 船舶防污底系统风险评估 第1部分：船舶防污底系统用防污活性物质的海洋环境风险评估方法

(English Translation)

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Foreword

GB/T 34033 "Risk and Offshore Technology Ship Anti-Fouling System Risk Assessment" is divided into the following parts.

--- Part 1. Marine environmental risk assessment methods for antifouling active substances in marine anti-fouling systems;

--- Part 2. Marine environmental risk assessment method for ship anti-fouling systems using antifouling actives.

This part is the first part of GB/T 34033.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part uses the translation method equivalent to the ISO 13073-1:2012 "Ship and Marine Technology Ship Anti-Fouling System Risk Assessment" Part 1. Marine environmental risk assessment method for antifouling active substances in marine anti-fouling systems.

This part was proposed by China State Shipbuilding Corporation.

This part is under the jurisdiction of the National Marine Machinery Standardization Technical Committee Marine Environmental Protection Subcommittee (SAC/TC137/SC9).

This section drafted by. China Shipbuilding Industry Corporation 704 Institute.

1 Scope

This part of GB/T 34033 specifies the potential negative effects of the ship's lifespan on the marine environment from the antifouling actives.

A method of risk assessment for affected anti-fouling systems. Refer to this method for fresh water environments.

This section applies to assessment methods other than the special assessment test methods for the hazard, toxicity or use limits of specific substances, as well as A method other than the method for evaluating the effectiveness of an antifouling system using a specific substance.

This section does not cover the following.

- Antifouling activity in the anti-fouling system during the application and removal stages of shipbuilding, ship maintenance and repair or ship modification Risk assessment of the substance;
- Based on the requirements of the International Convention for the Control and Management of Ballast Water and Sediments (2004), aimed at controlling ship ballast water and sediments Anti-fouling system for harmful aquatic organisms and pathogens;
- Rescue bottom system for salvage devices, buoys and buoys, as well as equipment for fisheries and aquaculture (fishing nets/cages) Wait);
- Small-scale test for anti-fouling systems for the purpose of research and development of anti-fouling products;
- Risk assessment of antifouling actives in accidental spills, such as dumping during maritime transport or from river and/or coastal facilities Emissions to the ocean.

2 Terms and definitions

The following terms and definitions apply to this document.

Acute toxicity test

A short-term exposure test of an aquatic species (usually takes tens of hours, the exposure time varies from species to species), in order to Half-lethal effect concentration (LC50) of fish mortality, invertebrate abnormal behavior or inhibition of algae growth at the end of the test results or half the inhibitory effect concentration (EC50).

Anti-fouling system(s) Coatings, surface treatments, surfaces or equipment used on ships to control or prevent the attachment of unfavorable organisms.

Evaluation coefficient assessment factor(s) Concentration-impact relationship at the end of the risk test results determined by the experiment [eg dose-related correlation of the highest no-effect concentration (NOEC) Method] The numerical coefficients of uncertainty are extrapolated to predict unaffected concentrations in environmental risk assessments.

Note: The end point of the hazard test results is obtained by dividing a specific data point by the evaluation factor to determine the predicted unaffected concentration of this particular antifouling active.

(PNEC). This is equivalent to the "uncertainty factor" used in the risk assessment of human health effects.