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

GB/T 43121.1-2023

**Ships and marine technology - Aquatic nuisance species - Part
1: Ballast water discharge sample port**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1. Structure and Drafting Rules of Standardization Documents"

Drafting.

This document is Part 1 of GB/T 43121 "Aquatic Hazardous Species on Ships and Offshore Technology". GB/T 43121 has been released

The following parts.

---Part 1. Ballast water discharge sampling interface.

This document is equivalent to ISO 11711-1:2019 "Aquatic Harmful Species on Ships and Offshore Technology Part 1. Ballast Water Discharge Sampling" interface".

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

Introduction

The purpose of ship ballast water sampling is to determine whether the ballast water meets the prescribed discharge standards, such as for the installation of ballast water treatment equipment or

Assessment, regular ballast water discharge assessment, or port state inspection of ballast water being discharged. The ISO 11711 series of standards provides

Sampling guidance is designed to support the enumeration of organisms in ballast water discharge lines in accordance with the International Maritime Organization (IMO) D-2 discharge standard. The plan

It is necessary to collect and analyze representative samples, that is, the composition of the samples can represent the flow in the ballast water pipeline during the sample collection

period.

water situation. It is planned to consist of the following two parts.

---Part 1. Ballast water discharge sampling interface. The purpose is to provide shipboard personnel and other interested parties with information on ballast water discharges.

Guidance on the design, installation and procedures required to obtain representative ballast water samples from ballast water discharge piping.

Design and layout requirements for waterborne discharge sampling interfaces.

---Part 2. Onboard ballast water sampling and sample processing. The purpose is to specify the sampling devices required for the collection and processing of samples on board ships

The selection and use requirements are met by selecting the appropriate sampling tube and sample flow control to meet the requirements of the representative sample.

The ISO 11711 series of standards is only applicable to ballast water discharge pipelines with turbulent flow. The related concepts are shown in Figure 1. future document

Methods for sample analysis and determination of compliance with ballast water discharge regulations will be provided.

Indexing serial number description.

1---sampling valve; 6---sampling pipe;

2---Connecting flange; 7---Sample water flow;

3---Isolation valve; 8---Ballast water flow;

4---Sampling interface; 9---Sample collection device.

5---Ballast water main pipeline;

ISO 11711-1 Ballast water sampling interface-accessory arrangement.

ISO 11711-2 Ballast water sampling and sample handling on board ships.

Note 1. Figures are not drawn to scale.

Note 2. The figure shows the arrangement of the sampling interface perpendicular to the main ballast flow.

Figure 1 ISO 11711-1 and ISO 11711-2 conceptual diagram

Aquatic Harmful Species for Ships and Offshore Technology

Part 1. Ballast water discharge sampling interface

1 Scope

This document specifies the design and layout requirements for ballast water discharge sampling interfaces.

According to the overall design requirements of the ship, a suitable sampling probe should be installed at the ship's sampling interface to meet the needs of collecting ballast water samples.

The port is sealed with a blind flange when not in use.

This document also specifies the location of representative sampling interfaces to match various samplers. This document also stipulates sample

The return interface requirements of the ballast water pipeline downstream of the sample sampling interface allow the processed sample water to return to the ballast water pipeline. Sample collection personnel

Determine suitable samplers and other sample collection equipment according to the requirements of ISO 11711-2.

Note. The sampling interface mentioned in this document is different from the sampler mentioned in ISO 11711-2. The sampling interface is a permanent device, designed and installed

In ship ballast water pipelines, it meets the installation requirements of multiple samplers. The sampler is designed by the sampling party to meet the purpose of sampling and measurement and to cooperate with the sampling interface.

Temporarily installed water sample collection tube.

This document is applicable to ship ballast water discharge pipelines with turbulent flow and nominal size not less than DN100. Regarding smaller diameter ballast

See Appendix A for the water discharge pipeline.

This document mainly involves the collection of ballast water discharge samples. The optional installation of the sampling interface when collecting inlet water samples is shown in Appendix B.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations

For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to

this document.

ISO 7005-1 Pipe flanges Part 1.Steel flanges for industrial and general piping systems (Pipeflanges-Part

Note. GB/T 9124.1-2019 Steel pipe flanges Part 1.PN series (ISO 7005-1.2011, NEQ).

Note. GB/T 3033.1-2005 Identification colors of contents of ship and offshore technical piping systems Part 1.Main colors and media (ISO 14726-1.

1999,IDT);

GB/T 3033.2-2005 Identification colors of contents of ship and offshore technical piping systems Part 2.Additional information for different media and/or functions

Color (ISO 14726-2.2002, IDT).

Note. GB/T 19869.1-2005 Welding procedure qualification test for steel, nickel and nickel alloys (ISO 15614-1.2004, IDT);

GB/T 19869.2-2012 Welding procedure qualification test for aluminum and aluminum alloys (ISO 15614-2.2005, MOD);

GB/T 40801-2021 Welding process qualification test for titanium, zirconium and their alloys (ISO 15614-5.2004, MOD);

GB/T 39312-2020 Welding process qualification test for copper and copper alloys (ISO 15614-6.2006, MOD);

GB/T 40740-2021 Surfacing process qualification test (ISO 15614-7.2016, MOD);

GB/T 40424-2021 Welding process qualification test of tubes and tube sheets (ISO 15614-8.2016, MOD);

GB/T 29710-2013 Test methods for electron beam and laser welding process qualification (ISO 15614-11.2002, MOD);