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

GB/T 43124-2023

**Ships and marine technology - Marine environment protection -
Tanks and piping systems for facilitating 5 ppm oil-water
separation**

船舶与海洋技术 海上环境保护 5 ppm油水分离用储罐和管路系统

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Table of Contents

1 Scope	1
2 Normative reference documents	1
3 Terms and Definitions	1
4 Technical conditions	1
4.1 Oil-water separation device (OWSE) 1 4.2 5ppmOWS	2
4.3 Oil content meter (OCM)	2
4.4 Automatic emission shutdown device (ADSD)	3
4.5 Electrical and electronic systems	3
4.6 Heating equipment	3
5 Installation requirements 3 5.1 5ppmOWS	3
5.2 Oil content meter (OCM)	3
13 Reference	14

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 equivalent to ISO 21963.2020 "Ship and Marine Technology Marine Environmental Protection Tanks and Pipes for 5ppm Oil and Water Separation" Road System". Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is proposed and coordinated by the National Marine Machinery Standardization Technical Committee (SAC/TC137). This document was drafted by: 704th Research Institute of China State Shipbuilding Corporation, Nantong Taisheng Landao Marine Engineering Co., Ltd., China Gezhouba Group Machinery and Shipbuilding Co., Ltd., Guangdong Jingin Marine Engineering Co., Ltd., Taizhou Haibaina Marine Equipment Co., Ltd., China Merchants Jinling Shipbuilding (Weihai) Co., Ltd., Shanghai Installation Engineering Group Co., Ltd. The main drafters of this document. Sheng Weiqun, Wang Shuo, Ma Weiliang, Zhu Jun, Zou Tao, Su Xiaofang, Le Chenggang, Xu Lie, Yu Xiang, Xu Zhen, Xia Guisheng, Ou Shubo, Zhang Ningbo, Sun Yangang.

National, regional and international rules and regulations all impose requirements for marine environmental protection. The International Maritime Organization (IMO) Marine Environmental Protection Subcommittee (MEPC) adopted the International Convention for

the Prevention of Pollution from Ships in 1973. Convention" (MARPOL), and is regularly revised and updated. MARPOL is the benchmark regulation for marine pollution prevention and control. MARPOL requires the installation of oil and water Separation system to handle the oil-water mixture produced on board. Oil-in-water emulsions, surface water-oil mixtures, fuel oils and lubricants on fixed offshore structures and MARPOL regulations Certain other oily wastewater substances may cause spills or hazards. Therefore, it is necessary to separate the above mixture to reduce the oil content Down to the oil concentration limits required by MARPOL. Ships and Marine Technology Marine Environmental Protection 5ppm Storage tanks and piping systems for oil and water separation

1 Scope

GB/T 43124-2023 specifies the tanks and piping systems that allow a ship to achieve 5 ppm oil-water separation, equivalent to ISO 21963. MARPOL allows discharge of machinery space bilge water at 15 ppm, but special areas and an increasing number of ports demand 5 ppm, and reaching it is not a matter of a better separator alone: emulsions formed upstream by pumping and by detergents cannot be broken by the separator at all, so the tanks and pipework that feed it determine the result. The standard sets the technical conditions for the oil-water separation equipment, the 5 ppm separator itself, the oil content meter, the automatic discharge shutdown device, the electrical and electronic systems and the heating equipment, then the installation requirements and the testing of the 5 ppm system. It took effect on 1 April 2024.

This document specifies the requirements for oil and water separation tanks, piping systems and separation systems installed on fixed offshore structures and ships. Requirements and test methods, optimize the treatment process of the oil-water separation system, so that the oil content is less than or equal to 5ppm. This document applies to offshore fixed offshore installation structures and ships operating in sea areas clearly designated by the competent authority.

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 8217 Petroleum products fuel (class F) Marine fuel specification
[Petroleumproducts-Fuels(classF)-Speci- ISO 9377-

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 partspermilion ppm Parts of oil per million parts of water, by volume.

Note. 1ppm equals 1 μ L of oil in 1L of water.

3.2 ppmdisplayppm Digital display of ppm (3.1).

4 Technical conditions

4.1 Oil-water separation device (OWSE) Oil-water separation devices installed on offshore fixed offshore facility structures and ships must be manufactured to meet offshore operating conditions. The oil-water separation device should consist of the following parts.

---Oil water separator (5ppmOWS);

---5ppm oil content meter (5ppmOCM);