Proinde

Ballast Water and Biofouling Regulations in Brazil

Pratical Guidance

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Practical Guidance

Content

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1. Foreword

The introduction of invasive aquatic species (IAS) and pathogens through ballast water discharge and hull biofouling poses significant threats to marine ecosystems and biodiversity. Ballast water serves as a global vector for the transfer of non-native organisms, while biofouling results in the accumulation of aquatic microorganisms, plants, and animals on submerged surfaces, further contributing to the spread of IAS.

To address these challenges, the International Maritime Organization (IMO) has established key regulatory frameworks, including the 2004 Ballast Water Management (BWM) Convention, the 2001 Anti-fouling Systems (AFS) Convention, and, more recently, the 2023 Biofouling Guidelines (Resolution MEPC.378(80)). Together, these frameworks aim to mitigate the risks associated with untreated ballast water discharge, harmful anti-fouling systems, and biofouling.

In Brazil, the management of ballast water, AFS, and biofouling is governed by the *Maritime Authority Standards for the Prevention of Environmental Pollution Caused by Vessels and Platforms* (NORMAM-401/DPC). Updated in 2026 by the Brazilian Navy's Directorate of Ports and Coasts (DPC), this regulation integrates international conventions and guidelines with stricter national requirements. It also outlines the administrative procedures for assessing penalties and imposing fines. Crucially, while statutory compliance obligations remain fully active, stakeholders must navigate a transitional landscape following the DPC's official deferral of specific biofouling fines until January 2028, alongside complex, layered environmental jurisdictional overlaps across port authorities.

This guide provides insights into Brazil's regulatory landscape for marine environmental protection, equipping ship operators, masters, P&I insurers, and shipping agents with practical information to enhance effective risk management strategies. As regulatory frameworks and local port infrastructures evolve, this guide will be updated to reflect new developments. Staying informed about these changes is essential to mitigate commercial exposure, prevent Port State Control deficiencies, and protect marine ecosystems.

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2. Ballast Water Management

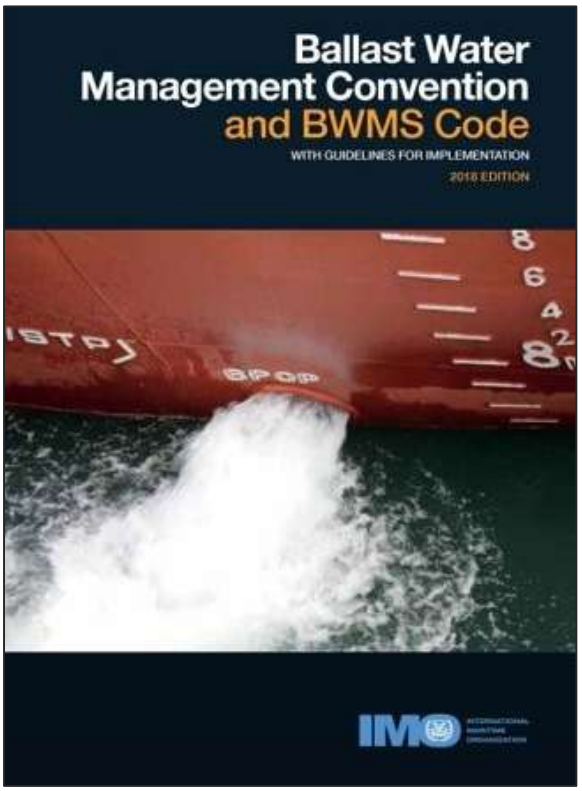
2.1. Ballast water definition

According to the International Maritime Organization (IMO), ballast water "*means water with its suspended matter taken on board a ship to control trim, list, draught, stability or stresses of the ship".* The introduction of invasive aquatic species (IAS) and pathogens through ships' ballast water to new environments has long been recognised as a significant threat to the world's oceans. **Picture 1**

Picture 1: Examples of spreading invasive aquatic species from one part of the ocean to another. Source: IMO

2.2. International Conventions

The global maritime community initially addressed this environmental challenge with voluntary guidelines adopted by the IMO in 1991. These guidelines have been amended over time, incorporating lessons learned to guide the industry in the proper control and management of ballast water to mitigate the spread of potentially harmful organisms through international shipping.



Picture 2: Cover of the BWM Convention and BWMS Code, 2018 Edition. Source: IMO

In 2004, the IMO adopted the *Ballast Water Management Convention* ("BWM Convention")[1], which entered into force globally in 2017[2]. Since then, ships engaged in international traffic are required to comply with the standards established by the BWM Convention. Compliance must be demonstrated through i) a Ballast Water Management Plan (BWMP), ii) A Ballast Water Record Book (BWRB), and iii) an International Ballast Water Management Certificate (BWMC) for ships of 400 GT and above.

[1] The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention) was adopted by the IMO in 2004 and came into force globally in September 2017

[2] Brazil's National Congress approved the BWM Convention through Legislative Decree 148 of 2010, and it entered into force in September 2017. Following the legislative process, Executive Decree 10,980/2022 promulgated the Convention, which came into effect in February 2022

2.3. Domestic Maritime Regulations

The Navy's Directorate of Ports and Coasts (DPC) acts as Brazil's maritime authority, responsible for regulating and enforcing international maritime conventions and guidelines nationwide. This is achieved through a dynamic suite of authority standards known as 'NORMAMs', which are periodically updated to reflect newly adopted international treaties and guidelines ratified by the Brazilian government.

In 2005, the DPC published the first edition of its "*Normas da Autoridade Marítima para o Gerenciamento de Água de Lastro de Navios"* (Maritime Authority Standards for the Management of Ship Ballast Water), designated NORMAM-20/DPC. This standard specifically addressed shipboard ballast water control and management. Initially, it mandated that vessels arriving from abroad or from a distinct fluvial basin to call at Amazon ports were required to perform two ballast water exchanges. This measure aimed to prevent the transfer of exotic or pathogenic organisms into the Amazon ecosystem. Eventually, the Amazon exchange rule was discontinued via an update in 2014[3].

Concurrently, the control of ship biofouling was governed by a separate regulation, titled "*Normas da Autoridade Marítima para o Controle de Sistemas Anti-incrustantes Danosos em Embarcações*" (Maritime Authority Standards for the Control of Harmful Anti-fouling Systems in Vessels), coded NORMAM-23/DPC.

Pictures 3 & 4: Ships undergoing deballasting. Source: Shutterstock

By 2022, the DPC released the third edition of its NORMAM-20/DPC, rebranded as "*Normas da Autoridade Marítima sobre Poluição Hídrica Causada por Embarcações, Plataformas e suas Instalações de Apoio*" (Maritime Authority Standards on Water Pollution Caused by Vessels and Platforms and their Supporting Installations). This update revoked NORMAM-23/DPC, integrating its harmful anti-fouling systems (AFS) provisions into a new chapter. **Chapter 3**

In 2023, the DPC reorganised and renumbered its standards, recoding NORMAM-20/DPC as NORMAM-401/DPC, currently titled "*Normas da Autoridade Marítima para a Prevenção da Poluição Ambiental Causada por Embarcações e Plataformas*" (Maritime Authority Standards for Prevention of Water Pollution Caused by Vessels and Platforms).

In 2025, NORMAM-401/DPC was further updated to incorporate a dedicated chapter on ship biofouling management. This addition complements existing provisions concerning ballast water management, anti-fouling systems and administrative proceedings for assessing penalties arising from pollution incidents, including the discharge of oil and other harmful or dangerous substances in Brazilian jurisdictional waters. **Chapter 4**

[3] According to the Amazon Exchange Rule on 2005 NORMAM-20/DPC, when transiting in the Amazon, the first exchange was to be conducted at least 200 miles from the nearest shoreline in waters of at least 200 metres deep, through sequential flow, continuous flow, or dilution method, consistent with the BWM Convention. To reduce water salinity, the second exchange should be conducted in the stretch between 20 metres isobathic (depth) and Macapá (Fazendinha Pilot Station), for vessels entering the Amazon River, and at least 60 miles from Salinópolis up to Mosqueiro for ships heading to the ports of Belém and Vila do Conde (Barcarena) via the Pará River

Picture 5: Cover of the Brazilian maritime authority standard NORMAM-401/DPC, 2025 Edition. Source: MB/DPC

2.3.1. Application

All ships equipped with ballast tanks, whether Brazilian or foreign flagged, that are underway, anchored, or laid up within Brazilian jurisdictional waters must adhere to the rules of the BWM Convention as well as the specific provisions of the maritime authority standards[4]. They must maintain an approved Ballast Water Management Plan (BWMP) and keep an updated Ballast Water Record Book (BWRB), while submitting a Ballast Water Reporting Form prior to arriving at national ports. **Section 2.5**

2.3.2. Exemptions

Under Chapter 2 of NORMAM-401/DPC, the operational requirements do not apply to the following categories of vessels[5]:

- **Warships:** Warships and naval auxiliary ships owned or operated by a State and used on non-commercial service.

- **Pleasure and SAR craft:** Boats and vessels used solely for sport or recreation or employed in search and rescue (SAR) operations, provided they have a length overall (LOA) of less than 50 metres and a maximum ballast water capacity of 8 (eight) cubic metres.

- **Sealed ballast tanks:** Ships equipped with permanently sealed ballast water tanks that cannot discharge ballast water into the marine environment.

[4] Article 2.1.1 of the "*Normas da Autoridade Marítima para a Prevenção da Poluição Ambiental Causada por Embarcações e Plataformas*" (Maritime Authority Standards for Prevention of Water Pollution Caused by Vessels and Platforms), NORMAM-401/DPC (2025 Edition)

[5] The Ballast Water Management Plan (BWMP) and the International Ballast Water Management Certificate (BWMC) for Brazilian vessels and foreign ships chartered with an AIT must be approved by a classification society with representation in Brazil. Vessels flying foreign flags must have their plans approved by the respective flag administration or an organisation recognised by it

- **Cabotage ships:** Brazilian-flagged vessels and those registered in the Brazilian Special Registry (REB)[6] operating exclusively within Brazilian waters, except when transiting between distinct hydrographic basins or crossing environmental boundaries[7].

- **Fixed or floating platforms:** Drilling rigs, platforms, and floating production, storage and offloading (FPSO) units operating under a specific environmental licence within local waters, provided they execute an approved internal water management programme.

2.3.3. Certificate of Exemption (CISEN)

The Directorate of Ports and Coasts (DPC) may grant exemptions from ballast water management obligations to domestic or foreign vessels operating solely in Brazilian waters, upon the submission of a substantiated application to the maritime authority. Such exemptions are contingent upon the ships carrying either an '*Atestado de Inscrição Temporária*' - AIT (Temporary Registration Certificate) or being registered with the REB. Qualifying vessels will receive a '*Certificado de Isenção*' - CISEN (Certificate of Exemption), valid for 5 (five) years and subject to intermediate review[8].

Ships exempt from standard ballast water management are still required to carry the applicable statutory documentation on board, including the CISEN, where available. Exemptions issued unilaterally by or on behalf of vessels' flag administrations do not exempt a qualifying vessel from conducting ballast water control and management in accordance with the BWM Convention and Chapter 2 of NORMAM-401/DPC[9].

2.3.4. Exceptions

NORMAM-401/DPC provides for exceptions to compliance with the ballast water exchange and treatment procedures for vessels facing specific contingencies or in distress, including:

- **Force majeure/act of God:** Situations where compliance is waived to ensure the safety of a ship or to save life at sea.

- **Emergencies**: Instances where it is necessary to uptake or discharge ballast water and sediment to ensure the safety of the vessel in an emergency, or to save human life at sea.

- **Accidental discharge:** Cases involving the unintentional discharge of ballast water and sediments resulting from damage to the ship or its equipment, provided that all reasonable precautions were taken before and after the occurrence or discovery of the damage to prevent or minimise the discharge, unless the shipowner, company, or officer in charge wilfully or recklessly caused the damage.

- **Pollution prevention:** Situations where the uptake and discharge of ballast water and sediments are carried out to prevent or minimise pollution incidents caused by the vessel.

- **Same-location update or discharge:** When the uptake or discharge of ballast water and sediments occurs at the same location where the ballast water and sediments originated, ensuring no mixing with ballast water and sediments from other areas.

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[6] The *Registro Especial Brasileiro* – REB (Brazilian Special Registry) is a promotional maritime registry designed to enhance the competitiveness of the Brazilian merchant fleet through tax incentives and flexible labour rules. It provides a 'flag suspension', a mechanism that allows a foreign-flagged vessel, when bareboat-chartered by an *Empresa Brasileira de Navegação* – EBN (Brazilian Shipping Company), to temporarily suspend its original registry and fly the Brazilian flag, enabling it to operate in coastal trade while maintaining the ability to revert to its original flag

[7] Article 2.5.1 of NORMAM-401/DPC mandates that, when transiting between distinct hydrographic basins or crossing environmental boundaries, qualifying vessels must manage ballast water and record all operations in the BWRB. Ships lacking an operational Ballast Water Management System (BWMS) are required to perform a sea-based ballast water exchange to prevent the transfer of invasive species

[8] Article 2.1.4 and Annexe B of NORMAM-401/DPC

[9] Articles 2.1.3 & 2.1.4 of NORMAM-401/DPC

- **Contingency situations:** Instances where managing ballast water through treatment is not possible due to unforeseen equipment failures. Any occurrence of the above exceptions must be reported to the local maritime authority as soon as possible and supported by appropriate documentary evidence[10].

2.3.5. Documentary requirements

All vessels subject to the provisions of NORMAM-401/DPC are required to undergo inspections by the maritime authority agents (Port State Control) to ensure full compliance. These vessels must carry the following documentation as evidence of adherence to the ballast water regulations[11]:

a) Ballast Water Management Plan (BWMP):

The BWMP must be ship-specific and contain the following information:

i. Safety procedures for the vessel and crew associated with ballast water control and management.
ii. A detailed description of actions to implement ballast water control and management.
iii. Procedures for disposing of sediments from ballast tanks, both at sea and on land.
iv. Locations where ballast water samples can be taken to represent the ballast being carried.
v. The name of the officer responsible for ensuring the plan is correctly implemented.
vi. The plan must be written in the vessel's working language; If the language is not English, a translation must be included.
vii. For Brazilian-flagged ships or foreign ships carrying a Temporary Registration Certificate (AIT) and operating exclusively in Brazilian waters, the BWMP must be written in Portuguese.

b) International Ballast Water Management Certificate (BWMC):

This certificate is required for ships of 400 gross tonnage and above. It must specify which standard (D-1 or D-2) the ship has adopted and must conform to the statutory formatting and delegation framework set out under NORMAM-331/DPC[12].

c) Ballast Water Record Book (BWRB):

The BWRB must be used to document information regarding ballasting and deballasting operations, exchanges, and treatment of ballast water. Ballast exchanges at sea, as well as uptakes and discharges to reception facilities or any extraordinary circumstances, must also be recorded[13].

Ships may opt to use a BWRB in a class-approved electronic format, provided it includes all ballast water information required by the maritime authority reporting forms[14].

Ballast water information must be included in the DPC mandatory forms and in the specific Ballast Water Information box of the General Entry Declaration (Annexe 1-B of NORMAM-204/DPC[15]) or the Vessel's Arrival Notice (Annexe 1-H of NORMAM-204/DPC), as applicable.

[10] Article 2.1.2 of NORMAM-401/DPC

[11] Article 2.2.1 of NORMAM-401/DPC

[12] "*Normas da Autoridade Marítima para Reconhecimento de Entidades Especializadas*" (Maritime Authority Standards for the Recognition of Specialised Entities), NORMAM-331/DPC, 2023 Edition

[13] The BWRB must be kept on board for at least two years after the last entry and thereafter in the control of the shipowner for at least three years. In the case of any discharge of ballast water not otherwise exempted, a detailed entry must be made in the BWRB describing the circumstances and reason for the discharge

[14] Amendments to the BWM Convention introduced by the IMO Resolution MEPC.383(81) entered into force in October 2025 to mandate that electronic record books must be approved by the vessel's classification society

[15] "*Normas da Autoridade Marítima para Tráfego e Permanência de Embarcações em Águas Jurisdicionais Brasileiras*" (Maritime Authority Regulations for Vessel Traffic and Stay in Brazilian Jurisdictional Waters) - NORMAM-204/DPC, 2025 Edition

d) Localised port requirements:

Regardless of the statutory documentary requirement under NORMAM-401/DPC (BWMP, BWMC, and the BWRB), local port authorities may enforce overlapping ballast water regulations. Specifically, the Santos Port Authority (APS) currently mandates that vessels entering the port present an independent certificate of compliance verifying international ballast water disposal standard adherence. Although this rule is facing legal challenges by the shipping industry and federal regulators (ANTAQ) due to overlapping tasking and added operational costs, APS has reinstated the mandate.

2.4. Ballast Water Exchange

The BWM Convention specifies, and NORMAM-401/DPC reiterates in greater detail, the ballast water exchange standards that all ships must comply with while operating in Brazil.

2.4.1. Exchange Standard (D-1)

The D-1 standard requires ships to exchange their ballast water in the open sea using sequential, flow-through, or dilution methods. Ideally, this exchange should be performed at least 200 nautical miles from land and in waters at least 200 metres deep. This standard significantly reduces the survival rate of aquatic organisms, minimising the risk of introducing invasive aquatic species (IAS) and pathogens when ballast water is discharged.

Ballast Water Exchange Methods	
Sequential method	• Ballast water tanks are completely drained and then refilled with open-ocean water.
Continuous flow method	• Ballast water tanks are simultaneously filled and drained by pumping open-ocean water.
Brazilian dilution method	• Replacement water is pumped into the ballast tank from the top while simultaneously discharging the original ballast water from the bottom at the same flow rate, maintaining a constant water level in the tank.

Table 1: Ballast water exchange methods accepted by the Brazilian maritime authority. Source: NORMAM-401/DPC

When performing ballast exchange under the D-1 standard, the ship must achieve a minimum of 95% volumetric ballast water exchange. Vessels using the continuous flow or dilution methods must pump at least three times the volume of each ballast water tank. Pumping less than this may be accepted if the ship can demonstrate that at least 95% volumetric exchange has been achieved.

If a mid-ocean ballast exchange (200 nautical miles from shore) is not feasible, the operation must be conducted as far from the shore as possible. This fallback exchange must occur no less than 50 nm offshore in waters at least 200 m deep, and the Master must thoroughly justify this decision in the BWRB.

Only tanks that have had their water exchanged may be deballasted, and no discharge of ballast water is allowed in ecologically sensitive areas and nature conservation Units or other protected areas established by environmental authorities, as indicated on nautical charts.

2.4.2. Performance Standard (D-2)

In contrast to the D-1 standard, which focuses on mid-ocean exchange, the D-2 standard requires vessels to treat ballast water to meet specific biological limits, typically through a shipboard Ballast Water Management System (BWMS) designed to neutralise harmful organisms. To meet the D-2 standard, discharged ballast water must contain fewer than specified concentrations of viable microorganisms, including specific harmful indicator microbes (pathogens)[16].

Since September 2024, when the global transition period for existing fleets concluded, all vessels governed by the IMO treaty are required to conform to the D-2 standard. This requirement applies unless the ship has been issued a Certificate of Exemption (CISEN) or in cases of exceptions due to extraordinary circumstances[17].

2.4.3. Brazilian Dilution Method (BDM)

The Brazilian Dilution Method, developed by a Brazilian shipowner and accepted by the maritime authority, involves the simultaneous inflow and outflow of ballast water. Replacement water is pumped into the ballast tank from the top; at the same time, the original ballast water is discharged from the bottom, ensuring balanced flow rates to keep the water level constant throughout the exchange operation[18].

Similar to the BWM Convention, the BDM requires that at least 95% volumetric exchange be achieved. When using the BDM, vessels in Brazilian waters must adhere to the same standards as D-1, which requires operations to occur at least 200 nautical miles from the coast at a minimum depth of 200 metres. All exchange activities must be recorded in the BWRB, including the start and completion coordinates and the total volume pumped, which must be at least three times the tank's capacity.

2.5. Ballast Water Management

Ships equipped with ballast water management systems (BWMS) installed on or after October 2020 must comply with the *2018 Code for Approval of Ballast Water Management Systems* ("BWMS Code"). For BWMS installed before this date, the *Guidelines for Approval of Ballast Water Management Systems* ("G8") apply.

Performance Standard Limits for Viable Organisms	
Large organisms (≥ 50 *μm*)	• Less than 10 viable organisms per cubic metre (e.g. zooplankton).
Small organisms (10–50 *μm*)	• Less than 10 viable organisms per millilitre (e.g., phytoplankton).
Indicator microbes (pathogens)	• Toxicogenic *Vibrio cholerae*: less than 1 colony-forming unit (cfu) per 100 ml. • *Escherichia coli (E. coli)*: less than 250 cfu per 100 ml. • Intestinal enterococci: less than 100 cfu per 100 ml.

Table 2: Performance standard limits for viable organisms. Source: NORMAM-401/DPC

The BWMS must provide comprehensive information for self-monitoring parameters and for inspections by the relevant authorities. In addition to general information, the system must include operational parameters, alerts and indications, as well as general and operational alarms.

[16] Vessels with a ballast water management system installed on board on or after October 2020 must comply with the IMO 2018 Code for Approval of Ballast Water Management Systems (BWMS Code)

[17] Article 2.3.2 of NORMAM-401/DPC

[18] Annex C of NORMAM-401/DPC

The system must incorporate an indicative analysis of the D-2 standard, which provides a quick, screening-level assessment using these proxy indicators to determine whether the ballast water treatment system is functioning as expected and if the discharge is likely to meet the D-2 standard for organism concentrations[19].

2.6. Ballast Tank Sediments

The BWM Convention mandates that vessels regularly remove sediments from ballast water tanks and associated piping systems to eliminate accumulated harmful aquatic organisms and pathogens that could pose ecological risks upon ballast water discharge.

In accordance with NORMAM-401/DPC, the discharge of ballast water tank sediments into Brazilian jurisdictional waters is strictly prohibited. These must be disposed of at designated port or terminal reception facilities that ensure environmentally sound handling and final disposal. Procedures for sediment removal and disposal must be clearly detailed in the Ballast Water Management Plan (BWMP)[20].

2.7. Navigation Between River Basins

All vessels navigating between river ports or terminals in distinct hydrographic basins must manage their ballast water. Ships not fitted with an operational Ballast Water Management System (BWMS) on board must conduct a ballast water exchange when transiting between distinct basins by sea[21].

2.8. Surveys & Certifications

Ships of 400 gross tonnage and above, to which the BWM Convention applies (excluding platforms, FSUs and FPSOs), are subject to various statutory surveys, including initial, renewal, intermediate, annual, and additional surveys conducted by or on behalf of the flag administration.

As part of the process for issuing sailing passes or dispatches to incoming or outgoing ships, the maritime authority routinely verifies the information contained in the BWMP and the Ballast Water Reporting Form (BWRF) or Arrival Notice (Annexes 1-B and 1-H of NORMAM-204/DPC). It also reviews the Ballast Water Record Book (BWRB) and the International Ballast Water Management Certificate (BWMC) to ensure the accuracy of entries and check the expiry dates of endorsements.

At the discretion of the maritime authority, water samples may be taken from the ballast tanks for the indicative verification of compliance with the management system adopted by the vessel.

2.9. Port Health Regulations

As Brazil's port health authority, the '*Agência Nacional de Vigilância Sanitária'* – ANVISA (National Health Surveillance Agency) plays a vital role in regulating ship ballast water to prevent the introduction of waterborne pathogens and protect public health. While the Brazilian Navy, through the Directorate of Ports and Coasts (DPC), oversees environmental and maritime standards for pollution prevention, ANVISA specifically controls ballast water as a primary vector for public health risks.

ANVISA enforces port health controls via Resolution of the Board of Directors No. 72 of 2009 (RDC 72/2009), as amended, which establishes sanitary requirements for ports, port facilities, and vessels. Under this federal regulation, ANVISA is tasked with ensuring that ballast water discharged from visiting ships does not introduce pathogenic agents that could lead to public health outbreaks.

[19] Article 2.3.1 of NORMAM-401/DPC

[20] Section 2.4 of NORMAM-401/DPC

[21] Section 2.5 of NORMAM-401/DPC

A completed BWRF is a mandatory document required from the master or ship's officer for ANVISA to grant health clearance (free pratique). Ships must provide detailed data on their ballast management to receive permission to berth and operate[22].

Regardless of the submitted form, every vessel is subject to potential ballast water sampling for analysis by the health authority to identify harmful pathogens and assess physical indicators and chemical components. ANVISA's regulations strictly prohibit the discharge of untreated or unexchanged ballast water into port basins, rivers, and nature conservation units[23].

2.9.1. Sanitary controls

The federal health agency holds concurrent jurisdiction with maritime, port, and environmental authorities over ballast water management. This oversight includes documentary reviews and physical inspections of visiting ships as part of comprehensive port health surveillance.

2.9.2. Port health clearance

Foreign-flagged commercial ships engaged in international trade must obtain a free pratique to enter Brazilian ports, embark or disembark crews and passengers, discharge or load cargo or stores, and receive shore visitors and contractors. ANVISA grants a '*Certificado de Livre Prática*' – CLP (Free Pratique Certificate) following the analysis and assessment of operational and hygienic-sanitary conditions on board, based on a review of health documents submitted by the master through their local shipping agent[24].

a) Documentary review:

The initial phase of the port health clearance process involves a technical analysis of the vessel's certificates, records, and logs pertaining to sanitary and health-related controls, as well as various shipboard management plans. Among the numerous records required, ANVISA typically reviews the following documents related to ballast water management:

- ANVISA's Ballast Water Reporting Form (BWRF)
- The Ballast Water Management Plan (BWMP)
- The Type Approval Certificate for the Ballast Water Management System (BWMS)
- The International Ballast Water Management Certificate (BWMC)
- The Ballast Water Record Book (BWRB)

If the documentary analysis shows no evidence of health risks, ANVISA will grant the CLP "by radio" (notifying health clearance via *Porto Sem Papel* – PSP (Paperless Port system[25])) without requiring a physical inspection. Otherwise, the health authority will demand such an inspection, either at the anchorage or alongside, prior to granting the free pratique.

[22] Articles 5, 8 & 62 to 65 of ANVISA RDC 72/2009

[23] Article 66 of ANVISA RDC 72/2009; IMO 2004 BWM Convention; WHO 2011 Guide to Ship Sanitation

[24] Articles 5, 10, 16 to 22, 24 & 25 of ANVISA RDC 72/2009

[25] The *Porto Sem Papel* - PSP (Paperless Port) is a single window system connecting multiple government authorities and port users for streamlining processes. The PSP is managed by the federal government

b) Physical Sanitary inspection:

The second phase of the sanitary inspection may involve a physical examination of critical areas of the ship to assess the prevailing hygienic and sanitary conditions. This includes inspecting ballast water systems and verifying the effectiveness of ballast water management plans. During this exercise, ANVISA inspectors may collect and analyse water samples from the ship's ballast tanks for harmful organisms, specifically targeting markers such as *Vibrio cholerae*, faecal coliforms, and *Escherichia coli*.

Upon satisfactory completion of the sanitary inspection, ANVISA will issue the CLP "on board"; however, the ship will remain under health surveillance and subject to periodic inspections throughout its stay at the port[26].

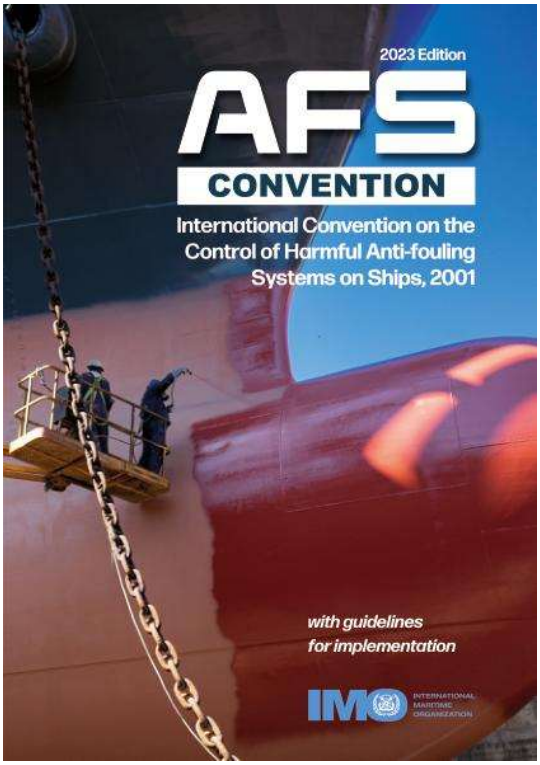
ANVISA may impose administrative sanctions if a vessel fails to maintain its ballast water treatment system (BWMS) or discharges untreated or unexchanged ballast water and sediments, as this practice is strictly prohibited in Brazilian waters. **See Section 5.1.2**

[26] Articles 10 to 25 of ANVISA RDC 72/2009

3. Harmful Anti-Fouling Systems

3.1. AFS Definition

The International Maritime Organization (IMO) defines an anti-fouling system (AFS) as "…*a coating, paint, surface treatment, surface, or device that is used on a ship to control or prevent attachment of unwanted organisms*"[27]. Although these systems have proven effective in preventing marine growth, some anti-fouling coatings (AFCs) have been found to contain harmful leaching organotin compounds, raising significant environmental and health concerns.



Picture 6: Cover of the 2001 AFS Convention with guidelines for implementation, 2023 Edition. Source: IMO

Research conducted by governments and international organisations has demonstrated that, while AFCs effectively inhibit the growth of marine organisms such as algae and molluscs on wetted hull surfaces and niche areas, specific components of these coatings can severely harm vital marine species and ecosystems, posing high toxicity risks. There are growing concerns about the potential human health risks arising from the consumption of contaminated seafood, especially from species affected by harmful anti-fouling coatings utilising organotin compounds as biocides[28].

3.2. International Conventions

In response to these environmental hazards, the IMO introduced the 2001 *International Convention on the Control of Harmful Anti-fouling Systems on Ships* (AFS Convention), in force worldwide since 2008. The AFS Convention primarily focuses on preventing adverse impacts arising from the use of AFS and the biocides they may contain, rather than addressing the transfer of invasive aquatic species (IAS) through biofouling. The IMO adopted significant amendments, which entered into force in January 2023, introducing a global ban on anti-fouling systems containing cybutryne. This expanded control framework mandates that all ships must not apply or re-apply coatings containing this toxic substance, while existing vessels bearing cybutryne must either remove the anti-fouling layer or seal it with an approved barrier coating by their next scheduled renewal survey.

[27] Article 2 of the 2001 International Convention on the Control of Harmful Anti-fouling Systems on Ships (AFS Convention), by the IMO

[28] For the purposes of Chapter 3 of NORMAM-401/DPC, AFS deemed harmful are specifically those containing organic tin compounds and/or cybutrin (known commercially as Irgarol 1051), as detailed in Annexe E of these maritime authority standards

3.3. Domestic Maritime Regulations

Harmful anti-fouling systems were first regulated by the Brazilian Navy's Directorate of Ports and Coasts (DPC) in 2007 through the "*Normas da Autoridade Marítima para o Controle de Sistemas Antiincrustantes Danosos em Embarcações*" (Maritime Authority Standards for the Control of Harmful Anti-Fouling Systems in Vessels), coded NORMAM-23/DPC.

In 2022, the DPC published the third edition of its "*Normas da Autoridade Marítima sobre Poluição Hídrica Causada por Embarcações, Plataformas e suas Instalações de Apoio*" (Maritime Authority Standards on Water Pollution Caused by Vessels and Platforms and their Supporting Installations), NORMAM-20/DPC. This update revoked NORMAM-23/DPC and incorporated its provisions related to harmful anti-fouling systems into a dedicated new chapter.

Picture 7: Cover of the Brazilian maritime authority standard NORMAM-401/DPC, 2025 Edition. Source: MB/DPC

Eventually, in 2023, NORMAM-20/DPC was reorganised and recoded as NORMAM-401/DPC: "*Normas da Autoridade Marítima para a Prevenção da Poluição Ambiental Causada por Embarcações e Plataformas*" (Maritime Authority Standards for the Prevention of Environmental Pollution Caused by Vessels and Platforms). This version consolidated environmental administrative proceedings and penalty assessments alongside management systems for ballast water and harmful AFS. Two years later, the maritime authority added a new chapter to NORMAM-401/DPC that specifically focuses on the control and management of ship biofouling. **Chapter 4**

3.3.1. Application

Regulations on harmful AFS are addressed in Chapter 3 of NORMAM-401/DPC. These apply to Brazilian vessels that require anti-fouling coatings and to foreign-flagged ships undergoing hull painting or coating applications within the country, as well as those operating under a Temporary Registration Certificate (AIT). Measures implemented to address harmful AFS must not unduly impede vessel operations or lead to unwarranted detention[29].

[29] Articles 3.1.1, 3.2.1, 3.2.2 & 3.3.1 of NORMAM-401/DPC

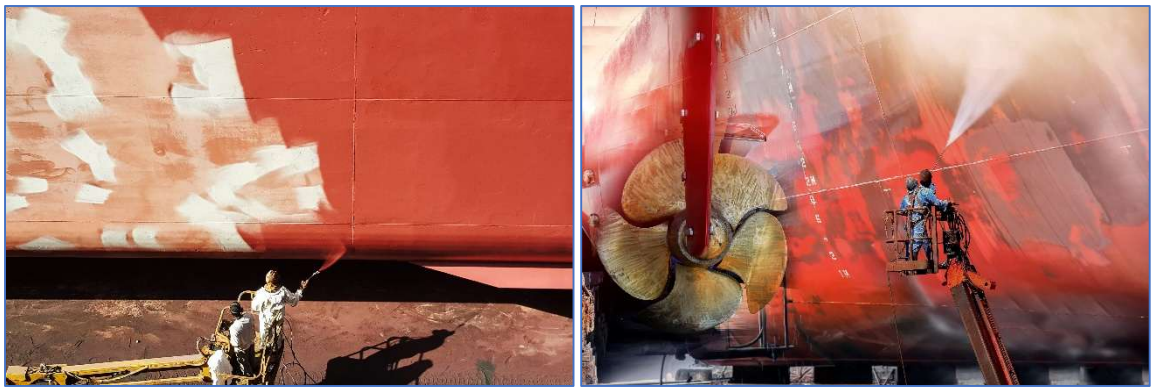
3.3.2. Exemptions

Exemptions are granted for warships, maritime support vessels, and any other vessels owned or operated by a State that are used for non-commercial government service. However, the standards do extend to platforms and other waterborne constructions that are subject to registration with the maritime authority and are capable of navigation in water[30].

While stationary platforms and FPSOs are exempt from carrying standard statutory certificates, they remain strictly subject to the prohibitions on organotin compounds and cybutryne, as they fall under the convention's definition of a ship operating within the maritime environment[31].

3.3.3. Certifications and documentation

Compliance is demonstrated through an International Anti-fouling System (IAFS) Certificate or an Anti-fouling System Declaration, accompanied by an Anti-fouling System Register. These documents, as referenced in NORMAM-401/DPC and delegated to recognised organisations under the framework of NORMAM-331/DPC, must be part of the vessel's operational documentation and be issued in accordance with the format laid down in the AFS Convention[32].



Pictures 8 & 9: Anti-fouling coating (AFC) being applied to a ship's hull. Source: Shutterstock/IMO

a) International Anti-fouling System Certificate:

The IAFS Certificate and the respective Anti-fouling System Register are mandatory for vessels of 400 gross tonnage (GT) or above, including domestic vessels, foreign-flagged vessels undergoing painting or coating applications in Brazil, and ships using AFS that are chartered in Brazil under an AIT regime.

The certificate is issued by recognised organisations or accredited entities acting on behalf of the Flag administration. For Brazilian-flagged vessels, this document is aligned with the statutory surveys required for the issuance of a '*Certificado de Segurança da Navegação'* - CSN (Safety of Navigation Certificate) conducted in accordance with NORMAM-201/DPC[33].

[30] Article 3.1.1 of NORMAM-401/DPC

[31] Under Article 2(9) of the AFS Convention, a ship is broadly defined as "...a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft, fixed or floating platforms, floating storage units (FSUs) and floating production storage and off-loading units (FPSOs)."

[32] Articles 3.3.2 & 3.3.3 of NORMAM-401/DPC

[33] '*Normas da Autoridade Marítima para Embarcações Empregadas na Navegação em Mar Aberto'* – NORMAM-201/DPC (Maritime Authority Standards for Vessels Employed in Open Sea Navigation)

b) International Anti-fouling System Declaration:

An Anti-fouling System Declaration, issued by the shipowner or the master and accompanied by appropriate documentary evidence (such as paint receipts or manufacturer datasheets), is required for vessels of less than 400 GT but with a length overall (LOA) of 24 metres or longer. The declaration must meet specific endorsement and signing requirements based on vessel type and survey regime. Smaller vessels are exempt from carrying a declaration but remain strictly subject to the prohibition of banned AFS where applicable.

3.3.4. Surveys and inspections

Subject vessels must undergo initial surveys, renewal surveys every five years, and surveys whenever modifications or complete changes are made to the anti-fouling system. Fixed or floating platforms, FSUs, and FPSOs are generally exempt from carrying these specific statutory certificates.

The maritime authority conducts naval inspections under the framework of NORMAM-301/DPC[34] primarily to verify the presence of the required Certificate or Declaration and Register, unless non-compliance is suspected. According to NORMAM-401/DPC, Certificates and Declarations become invalid if the AFS is replaced without updated documentation or if a Brazilian vessel changes its flag[35].

3.3.5. AFS waste management

Anti-fouling systems typically contain biocides intended to prevent the growth of aquatic organisms. However, these chemicals pose significant risks to marine ecosystems. As a result, NORMAM-401/DPC strictly prohibits the disposal of waste generated from AFS containing harmful compounds into the sea[36].

AFS waste, which typically consists of paint residues and fouling organisms removed during hull cleaning operations, must be managed in an environmentally responsible manner. Disposal ashore must be carried out by a specialised land-based waste management company that holds the necessary licensing from the relevant environmental agencies – such as IBAMA or municipal and state environmental bodies – and the local port authority.

[34] NORMAM-301/DPC, last updated in 2026, establishes the *Normas da Autoridade Marítima para Atividades de Inspeção Naval* (Maritime Authority Standards for Naval Inspection Activities)

[35] Articles 3.2.4 & 3.2.5 of NORMAM-401/DPC

[36] Article 3.2.7 of NORMAM-401/DPC

4. Biofouling Management

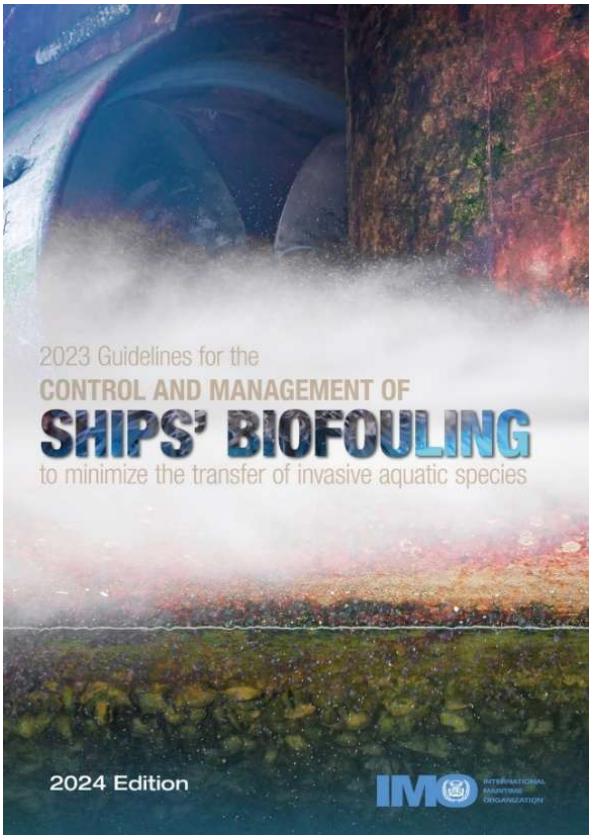
4.1. Biofouling Definition

The International Maritime Organization (IMO) defines biological fouling as "…*the accumulation of aquatic organisms such as microorganisms, plants and animals on surfaces and structures immersed in or exposed to the aquatic environment. Biofouling can include pathogens"*[37].

Beyond the critical ecological threat of transferring invasive aquatic species (IAS) globally, the natural growth of marine or riverine organisms on a ship's immersed surfaces drastically degrades its hydrodynamic performance and energy efficiency. Biofouling leads to a significant reduction in vessel speed and a corresponding increase in fuel consumption, thereby directly exacerbating greenhouse gas (GHG) emissions.

4.2. International Conventions and Guidelines

While the compulsory IMO 2001 International *Convention on the Control of Harmful Anti-fouling Systems on Ships* (AFS Convention) primarily focused on banning harmful biocides in anti-fouling systems (AFS), it did not directly address the physical transfer of IAS by organisms that still managed to attach to, or grow on, areas not protected by effective coatings.



Picture 10: Cover of the IMO 2023 Biofouling Guidelines, 2024 Edition. Source: IMO

To bridge this regulatory gap, the IMO initially introduced the *2011 Guidelines for the Control and Management of Ships' Biofouling to Minimise the Transfer of Invasive Aquatic Species* (2011 Biofouling Guidelines)[38]. These aimed to raise global awareness of IAS risks associated with hull surfaces and niche areas by providing best practices; however, their voluntary uptake eventually proved insufficient.

[37] 2023 Biofouling Guidelines

[38] The 2011 Guidelines for Control and Management of Ship's Biofouling to Minimise the Transfer of Invasive Aquatic Species" (2011 Biofouling Guidelines), were introduced in 2011 by the IMO Marine Environment Protection Committee (MEPC) through Resolution MEPC.207(62)

Following a comprehensive analysis of the limited impact of the initial framework, the IMO adopted the more stringent *2023 Guidelines for the Control and Management of Ships' Biofouling to Minimise the Transfer of Invasive Aquatic Species* (2023 Biofouling Guidelines)[39]. These updated guidelines reflect a more thorough approach to managing biofouling, incorporating prescriptive measures and placing greater emphasis on monitoring and stakeholder collaboration.

The 2023 Biofouling Guidelines aim to achieve enhanced global consistency and effectiveness in mitigating marine biological invasions. They promote a holistic approach that incorporates various facets of biofouling management throughout a ship's lifecycle, including:

- Practical ship design and construction methods;
- Effective installation, selection, and maintenance of anti-fouling systems (AFS);
- Implementation of a ship-specific Biofouling Management Plan (BFMP);
- Robust monitoring and underwater inspection protocols;
- A thorough, tailored assessment of biofouling risks for both macroscopic hull surfaces and critical niche areas;
- Clearly defined proactive and reactive hull cleaning strategies;
- Diligent record-keeping through a Biofouling Record Book (BFRB) documenting all control and management activities, including surveys, cleanings, and anti-fouling maintenance; and
- Comprehensive crew training and operational education.

These Guidelines also incorporate a standardised rating scale to assess the extent of biofouling, with particular emphasis on vulnerable niche areas such as sea chests, thruster tunnels, and inlet gratings. **Table 3**

4.3. Maritime Authority Biofouling Standards

The "*Normas da Autoridade Marítima para a Prevenção da Poluição Ambiental Causada por Embarcações e Plataformas* (Maritime Authority Standards for the Prevention of Environmental Pollution Caused by Vessels and Platforms), coded as NORMAM-401/DPC, was first issued in 2023. This standard repealed NORMAM-20/DPC and integrated its provisions related to ballast water, harmful anti-fouling systems (AFS), and the assessment of administrative penalties for pollution caused by vessels and platforms.

In June 2025, NORMAM-401/DPC received a significant revision, introducing a new chapter dedicated to addressing ship biofouling control and management.

While the procedure for applying for a permit for in-water reactive ship cleaning came into full effect in June 2025[40], the subsequent revision in December 2025 officially deferred the full enforcement of penalties and sanctions for non-compliance to 10 June 2026. However, following further industry consultations in May 2026, this enforcement date was subsequently postponed and is now due to take effect on 10 January 2028[41]. Until this revised deadline, the maritime authority will continue to act in a strictly advisory and educational role, focusing on industry awareness and technical transition before formal punitive implementation.

[39] The '2023 Guidelines for Control and Management of Ship's Biofouling to Minimise the Transfer of Invasive Aquatic Species" (2023 Biofouling Guidelines), were introduced in 2023 by the IMO's MEPC through Resolution MEPC.378(80)

[40] Ordinance No. 180/2025/DPC/DGN/MB, dated 10 June 2025

[41] Ordinances Nos. 193/2025/DPC/DGN/MB, dated 18 December 2025, and 476/2025/DPC/DGN/MB, dated 3 June 2026

4.4. Application & Exceptions

All ships over 24 metres in length underway, anchored, or laid up within Brazilian jurisdictional waters, must adhere to the rules of NORMAM/401/DPC[42]. The mandatory framework defines clear boundaries regarding which vessels must maintain a Biofouling Management Plan (BFMP) and a Biofouling Record Book (BFRB). These are categorised into regulatory out-of-scope provisions (non-application), automatic statutory exemptions, and performance-based discretionary certificates. Exempted vessels must still take appropriate measures to prevent the discharge of harmful residual substances into the marine environment[43].

4.4.1. Vessels in transit (non-application)

Any foreign or domestic vessel transiting through Brazilian waters continuously is outside the scope of the biofouling regulations set in NORMAM/401/DPC, provided there is no intention to call at any Brazilian port, anchor, drift, or engage in ship-to-ship (STS) operations within internal waters, the 12-nautical-mile territorial sea, or the 200-nautical-mile Exclusive Economic Zone (EEZ).

4.4.2. Statutory exemptions

The following vessels are explicitly exempt from the operational management mandates (BFMP/BFRB), though they must still take general precautions against environmental contamination:

- **Sovereign immunity:** Brazilian Navy ships or any foreign public vessel operated by a State exclusively for non-commercial government service;
- **Domestic profile:** Vessels that have not exited Brazilian waters or entered any foreign jurisdictional waters since their last dry-docking or hull cleaning; and
- **Environmental licensing supremacy:** Offshore oil and gas production platforms, Floating Storage and Offloading units (FSUs/FPSOs), and specialised support vessels operating under a valid federal environmental licence issued by the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA).

4.4.3. Performance-based exemptions

For qualifying commercial vessels over 24 metres in length that operate within Brazilian ports and demonstrate exceptional biofouling control: if a ship operator can legally demonstrate via verifiable technical logs and sequential diving reports that the hull and niche areas have successfully maintained a biofouling rating of Level 1 or less (microfouling/slime layer only) for a continuous period exceeding 1 (one) year, they may petition the Directorate of Ports and Coasts (DPC). The DPC may, at its discretion, issue a formal Certificate of Exemption (CISEN) with a maximum validity of 6 (six) months. This certificate permits the vessel to navigate freely across Brazil's three distinct biogeographical regions without undergoing mandatory, repetitive underwater inspections or reactive cleanings prior to each regional transit.

4.4.4. Exceptional situations

'Exceptional situations', as defined by NORMAM-401/DPC, are emergencies or circumstances that allow for a waiver of biofouling management requirements. These circumstances include situations of force majeure or emergencies to safeguard human life or the safety of the ship; instances where compliance can be waived to guarantee the vessel's safety and the people on board in an emergency, or to rescue human lives at sea; and accidental release of biofouling waste into the environment resulting from an incident, casualty or fact of navigation.

[42] Article 4.2.1 of NORMAM-401/DPC

[43] Article 4.1.1 of NORMAM-401/DPC

4.4.5. Unforeseen scenarios and omissions

In the case of an exceptional situation, the local maritime authority must be promptly notified, either directly or through the shipping agent[44].

NORMAM-401/DPC introduced a formal mechanism for vessels to request a Certificate of Exemption (CISEN) for unconventional or non-standard regulatory scenarios, provided they submit a comprehensive, scientific risk assessment regarding the introduction of invasive species based on the ship's operational profile. Furthermore, any technical omissions or situations unaddressed in the regulation must be deferred to the Directorate of Ports and Coasts (DPC) via the dedicated electronic channel for a case-by-case adjudication.

Picture 11: Cover of the Brazilian maritime authority standard NORMAM-401/DPC, 2025 Edition. Source: MB/DPC

4.6. Biogeographical Zoning

Given the extensive Brazilian coastline and its distinct biotic and abiotic features, and going beyond the voluntary IMO 2023 Biofouling Guidelines, NORMAM-401/DPC has introduced a strict biogeographical zoning framework designed to prevent the translocation of non-indigenous marine species travelling across different ecosystems. Annexe I of the maritime authority standard identifies three distinct marine biogeographical regions along the coast[45]. **Picture 12**

[44] Article 4.1.2 of NORMAM-401/DPC

[45] Article 4.3.1 and Annexe I of NORMAM-401/DPC

4.6.1. Northern Biogeographic Region (green)

This region comprises the area between the maritime basin of the mouth of the Amazon River in the North Region and the maritime basin of Barreirinhas, limited to the east by the maritime basin of Ceará (Alto de Tutóia) in the Northeast Region.

4.6.2. Northeast Biogeographic Region (yellow)

This region extends from the maritime basin of Ceará (from Alto do Tutóia) to the maritime basin of the Mucuri River, in the Northeast Region.

Picture 12: Brazilian maritime biogeographic regions. Source: Annexe 1 of NORMAM-401/DPC

4.6.3. Southeast-South Biogeographic Region (blue)

This zone stretches from the maritime basin of Espírito Santo, bounded to the north by the Mucuri River, at the southern limit of the state of Bahia, across the Southeast coast to the maritime basin of Pelotas in the South Region, limited to the north by the Subtropical Convergence Zone of the South Atlantic, at parallel 28° South, extending down to the southernmost border with Uruguayan waters.

4.7. Biofouling Rating Scale

For vessels exceeding 24 metres in length intending to enter Brazilian jurisdictional waters or to navigate across the three biogeographical regions outlined in the regulation, the biofouling level must be at or below Level 1, as defined in Annexe J of NORMAM-401/DPC. **Table 3**

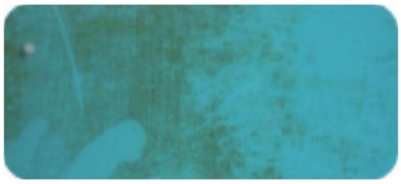
Rating	Description	Coverage	Action
 **0. No Biofouling**	Surface entirely clean. No visible biofouling on surfaces.	-	-
 **1. Microfouling**	Submerged areas partially or entirely covered in microfouling[46]. Metal and painted surfaces may be visible beneath the fouling.	-	Proactive cleaning of the hull, niche areas and other submerged areas.
 **2. Light Macrofouling**	Presence of microfouling and multiple macrofouling[47] patches. Fouling species cannot be easily wiped off by hand.	1% to 15%	Reactive cleaning with capture. It is recommended to shorten the interval until the next inspection. If the anti-fouling system has deteriorated, dry-docking with maintenance and reapplication of the AFS is recommended.
 **3. Medium Macrofouling**	Presence of microfouling and multiple macrofouling patches.	16% to 40%	
 **Heavy Macrofouling**	Large patches or submerged areas entirely covered in macrofouling.	41% to 100%	

Table 3: Rating scale to assess the extent of biofouling on inspected areas. Source: 'Annex J' of NORMAM-401/DPC

[46] According to the 2023 Biofouling Guidelines, 'microfouling' "... is biofouling caused by bacteria, fungi, microalgae, protozoans and other microscopic organisms that creates a biofilm also called a slime layer."

[47] According to the 2023 Biofouling Guidelines, 'macrofouling' "… is biofouling caused by the attachment and subsequent growth of visible plants and animals on structures and ships exposed to water. Macrofouling is large, distinct multicellular individual or colonial organisms visible to the human eye such as barnacles, tubeworms, mussels, fronds/filaments of algae, bryozoans, sea squirts and other large attached, encrusting or mobile organisms."

4.8. Documentary Requirements

While the requirements under the newly introduced Chapter 4 of NORMAM-401/DPC generally align with the voluntary IMO 2023 Biofouling Guidelines, the Brazilian Maritime Authority Standard mandates that qualifying ships maintain on board:

4.8.1. Biofouling Management Plan (BFMP)

In line with the 2023 Biofouling Guidelines, the maritime authority requires ships to include a Biofouling Management Plan (BFMP) within their operational documentation. The BFMP must outline ship-tailored procedures for controlling and managing biofouling accumulation on the vessel. The Plan must at least include the following ship-specific information:

- **Proactive maintenance and cleaning regime**: Provide a detailed, vessel-specific maintenance and cleaning schedule to ensure effective biofouling management consistent with Appendix 1 of the 2023 IMO Biofouling Guidelines;
- **Inspection schedule**: Present a comprehensive inspection schedule to be performed between docking periods and during dry dockings, as outlined in the risk assessment;
- **Cleaning procedures**: Set out clear procedures for cleaning actions when macrofouling is identified during inspections;
- **Contingency procedures**: Detail a structured approach for managing biofouling that may accumulate if the vessel deviates from its intended operational profile;
- **Coating System Maintenance**: Outline a maintenance regime for repairing, maintaining, and renewing the anti-fouling coating system based on the manufacturer's guidelines, particularly when nearing the end of its effective lifespan;
- **Monitoring Marine Growth Prevention Systems (MGPS)**: Describe regular monitoring of MGPS to evaluate efficacy in inhibiting biofouling, including scheduled maintenance according to manufacturer instructions. Examples of MGPS include chemical injectors in internal seawater systems, ultrasound devices, and anodes;
- **Safety Procedures and Crew Training**: Specify comprehensive safety procedures for both ship and crew, along with training and familiarisation programmes related to biofouling management practices; and
- **Waste Management (Capture)**: Protocols for the capture[48], collection, and final disposal of biofouling management waste, ensuring compliance with environmental regulations.

4.8.2. Biofouling Record Book (BFRB)

The Biofouling Record Book (BFRB) must be retained on board, ideally for the life of the ship, to record all activities related to the vessel's biofouling management. The BFRB is divided into two distinct parts:

- **Part I - Biofouling Management Activities**: The first section documents all activities outlined in the BFMP. It includes comprehensive records of planned activities, as well as observations of biofouling conditions before and after proactive cleaning[49]. Such information is necessary for the continued improvement of the risk assessment provided by the BFMP; and

[48] According to the 2023 Biofouling Guidelines, 'capture' "...is the process of containment, collection and removal of biofouling material and waste substances detached from submerged surfaces during cleaning in water or in dry dock."

[49] According to the 2023 Biofouling Guidelines, 'proactive cleaning', "...is the periodic removal of biofouling on ship's hulls to prevent or minimise attachment of macrofouling."

- **Part II - Monitoring Biofouling Risk Parameters**: The second section of the BFRB tracks operational events that have exposed the vessel to the highest risk of biofouling accumulation. It includes records of any deviations from the operational plans defined in the BFMP, as well as the contingency actions taken in response to these operational deviations.

4.8.3. Evidence of biofouling level

Any vessel planning to enter Brazilian waters or cross from one biogeographical region to another – with the intention of anchoring or calling at a Brazilian port or anchorage – must strictly adhere to the following conditions[50]:

- **Mandatory high-resolution documentation**: In addition to the BFMP and BFRB, vessels must maintain on board their latest hull and niche area inspection or cleaning report. This dossier must include high-resolution photographic or video evidence conclusively proving that the biofouling accumulation on the hull and niche areas is rated at or below Level 1 (microfouling/slime layer only) according to NORMAM-401/DPC's Annexe J rating scale;
- **Pre-transit survey:** As a standard operational protocol, the required underwater survey must be performed at the vessel's last port of call immediately prior to departing for Brazilian jurisdictional waters or navigating towards a different biogeographical region;
- **15-day stationary expiry trigger:** For the inspection or cleaning report to be deemed legally valid by Port State Control (PSC), the vessel must not have remained stationary (defined as being completely idle or operating at speeds below 10 knots for a continuous period exceeding 15 (fifteen) days) between the date of the underwater inspection and the subsequent entry into Brazilian waters or regional crossing; and
- **Maximum document validity**: Provided the 15-day stationary threshold is not breached, the inspection report remains valid for a maximum period of 1 (one) year from the date of the initial survey.

[50] Article 4.3.1 of NORMAM-401/DPC

5. Underwater Cleaning & Inspection

5.1. In-Water Inspections

The 2023 Biofouling Guidelines advocate routine in-water inspections to assess the condition of anti-fouling systems (AFS) and the accumulation of aquatic organisms on the submerged surfaces and niche areas of the hull structure. These inspections, conducted according to the biofouling rating scale provided in both Table 1 of the IMO Biofouling Guidelines and Annexe J of NORMAM-401/DPC, determine whether cleaning is required in line with the ship's Biofouling Management Plan (BFMP).

5.2. In-Water Cleaning

In 2025, the IMO issued its *Guidance on In-water Cleaning of Ships' Biofouling*[51], which provides thorough directives on in-water husbandry to minimise the transfer of invasive aquatic species. It aims to support the 2023 Biofouling Guidelines by promoting safe, environmentally responsible cleaning practices. These guidelines also provide comprehensive criteria for the design, operation, testing, approval, and use of In-water Cleaning Systems (IWCS). The regulations divide underwater cleaning operations into two distinct pathways based on the biofouling level verified during in-water inspections.

5.2.1. Proactive cleaning (Microfouling – Level ≤ 1)

As defined in the IMO Guidelines, this involves the periodic removal of the slime layer or biofilm (microfouling) before macroscopic organisms can attach to and colonise hulls, niches, and other underwater surfaces. Proactive cleaning is strongly encouraged. It may be performed with or without debris capture and requires a simplified notification process with fewer technological constraints, as it does not cause the fragmentation or dispersion of reproductive macroorganisms.

Vessels wishing to carry out proactive cleaning must inform the maritime authority – as well as the local port authority, where required – of the estimated start and end dates of the activity, as well as the exact location where it will be conducted, with a minimum recommended advance notice of 10 (ten) days, or as much advance notice as possible before the planned cleaning event[52].

5.2.2. Reactive cleaning (Macrofouling – Level ≥ 2)

Macrofouling settlement is triggered when the hull or niche areas display macroorganisms (such as hard barnacles, tubeworms, mussels, or macroalgae). While in-water cleaning with capture can be applied to manage any biofouling rating level, reactive cleaning to remove macrofouling at Level 2 or greater requires the use of an approved IWCS equipped with 100% debris capture and filtration capabilities.

In-water reactive cleaning with an approved IWCS is permitted only subject to prior authorisation from the local authorities. When permitted, reactive cleaning must ensure the complete collection of removed residues, consisting of fouling organisms and Anti-fouling Coating (AFC) flakes.

Vessels seeking to perform reactive cleaning must submit a written request to the local maritime authority at least 10 (ten) days prior to the planned operation. Hull cleaning activities, especially those conducted within port boundaries, must also be requested in advance. Crucially, in-water cleaning without residue capture is prohibited for vessels identified with any macrofouling layer (Level ≥ 2)[53].

[51] The 'Guidance on In-water Cleaning of Ships' Biofouling' was adopted in April 2025 through IMO Resolution MEPC.1/Circ.918

[52] Article 4.4.1 of NORMAM-401/DPC

[53] Article 4.4.2 of NORMAM-401/DPC

5.2.3. Application documentation

Reactive cleaning without capture may exceptionally be authorised by the maritime authority if it is conclusively proven that the macrofouling to be removed was generated entirely within the same biogeographical region where the cleaning is to take place. This exception applies solely to vessels that have not entered another biogeographical region since the last full hull and niche areas cleaning. Furthermore, all necessary clearances, permits, or licences issued by the local maritime environmental agency or port authority must be submitted to the local maritime authority as part of the hull cleaning application.

The application form for reactive cleaning, found in Annexe K of NORMAM-401/DPC, must be submitted alongside the following documents:

- The International Anti-Fouling System Certificate (IAFSC) or AFS Declaration (including the biofouling removal methodology recommended by the coating manufacturer, if applicable);
- The Biofouling Management Plan (BFMP) and the ship's Biofouling Record Book (BFRB);
- A chronological history of ports visited since the last hull and niche area cleaning, where available;
- The most recent hull and niche area inspection report, accompanied by clear, high-resolution images and video footage;
- A biofouling removal plan detailing the diving teams, methodologies, equipment, waste capture and filtration rates, and the specific location where the cleaning will occur; and
- Any additional relevant environmental licences or local port approvals.


Pictures 13 & 14: Macrofouling accumulated on ships' hulls. Source: Shutterstock/IMO

5.2.4. Recordkeeping

All biofouling control and management actions, including proactive and reactive cleanings, must be comprehensively described in the ship's BFRB (Part I) and documented with supporting evidence, such as inspection reports accompanied by high-definition illustrative videos or photographs. These records must be maintained on board in accordance with the minimum requirements set forth in Annexe H of the Maritime Authority Standards.

5.3. Prohibitions

5.3.1. Environmentally sensitive areas

In-water cleaning activities, whether involving waste capture or not, are strictly prohibited within ecologically sensitive areas and designated nature conservation units. Such activities will only be permissible if expressly authorised by the competent environmental agency or the management body holding jurisdiction over the protected zone[54].

[54] Article 4.4.2 of NORMAM-401/DPC

5.3.2. Port-specific restrictions

Beyond the general provisions outlined in the 2023 IMO Biofouling Guidelines and NORMAM/401-DPC, vessels intending to perform in-water cleaning within any Brazilian port or terminal must always verify the specific regional requirements or restrictions imposed by the local port authority and regional environmental agencies. Local authorities frequently impose additional constraints that may supersede or complement the national regulatory framework.

Furthermore, local port regulations may stipulate administrative fines directly imposed by the respective port authority for non-compliance with environmental protocols. These penalties are distinct from, and without prejudice to, any sanctions or detentions imposed by the maritime authority or federal environmental bodies.

5.3.3. Regulatory exceptions

NORMAM-401/DPC provides a strict territorial exception, allowing for reactive, non-capture in-water cleaning solely if operators can technically prove that the biofouling originated entirely within the same biogeographic region and that the ship has not entered other biogeographic regions since its last full hull and niche area cleaning. All necessary environmental and port authority permits must be submitted as part of the formal application submitted to the local maritime authority.

5.5. Underwater Inspections

The stringent new biofouling management requirements, as mandated by the Brazilian maritime authority, are poised to significantly increase the demand for specialised underwater services for vessels calling at national ports. This anticipated surge in demand is consequently expected to influence standard service prices.

Therefore, shipowners and operators engaging underwater service providers must thoroughly verify their credentials. It is essential to ensure that the prospective diving organisation is certified to recognised international standards and class-approved, where applicable. Additionally, the diving company must be duly accredited by the Directorate of Ports and Coasts (DPC) and obtain the necessary licences and permits from the local port authority, when required.

The national framework governing diving activities in Brazilian waters is detailed in the "*Normas da Autoridade Marítima para Mergulho Comercial*" (Maritime Authority Standards for Commercial Diving), coded as NORMAM-222/DPC, last updated by the DPC in 2025. These standards regulate the certification, operation, and safety of commercial diving activities. The regulation specifically outlines the prerequisites for the registration of diving companies, the certification of diving systems, and the qualification of divers and technical personnel.

All divers and diving systems employed for underwater ship inspection, repair, or in-water cleaning must comply with the relevant certification and registration requirements imposed by the DPC, which include:

a) **Certification: '***Certificado de Segurança de Sistema de Mergulho'* - CSSM (Certificate of Safety for Diving Systems): the CSSM is valid for five years, subject to annual endorsements;

b) **Registration: '***Ficha de Cadastro de Empresa de Mergulho'* - FCEM (Diving Company Registration Certificate): the FCEM is valid for five years from its issuance date, also requiring annual endorsements to maintain validity; and

c) **Diver qualifications:** Prospective divers must be accredited by the DPC as either compressed air divers (*Mergulhador de Ar Comprimido* - MGE) or artificial gas mixture divers (*Mergulhador de Mistura Gasosa Artificial* - MGP). They must possess a registration and certificate booklet (*Caderneta de Inscrição e Registro* - CIR) issued by the DPC.

Picture 15: Cover of the Brazilian maritime authority standard NORMAM-222/DPC, 2025 Edition. Source: MB/DPC

5.6. Operational Protocols

5.6.1.Safety requirements

The regulation mandates detailed safety protocols for all diving operations, encompassing equipment checks, thorough preliminary risk analyses, robust *Planos de Operação de Mergulho* – POMs (Diving Operational Plans), and clear emergency procedures. Hyperbaric chambers are mandatory for specific diving depths and operational conditions, and strict environmental limits are imposed on diving systems concerning depth, water temperature, and oceanographic parameters.

5.6.2. Mandatory niche area inspection

While main hull cleaning is standard, NORMAM-401/DPC mandates that, during inspection, commercial diving operators focus on hull niche areas, which are known hotspots for accelerated biofouling due to sheltered water-flow dynamics. Survey reports submitted under Annexe K must present distinct high-resolution footage for sea chests and through-hull grates, bow and stern thruster tunnels, bilge keels, and propeller shafts.

5.6.3. Underwater operational limitations

Under NORMAM-222/DPC, commercial diving companies are strictly bound by local physical and oceanographic parameters to guarantee diver safety. Masters must coordinate closely with the diving supervisor regarding:

a) **Current velocities:** In-water operations are prohibited if the ambient tidal current exceeds 0.5 knots, unless specialised surface-supplied diving systems with heavy guiding set-ups are deployed and explicitly approved in the POM.

b) **Simultaneous operations:** All hull scrubbing and diving inspections require an immediate, absolute lock-out on propeller turning, thruster tests, and sea-chest blowdowns. Cargo operations causing swift modifications to the ship's draft or stability must be carefully logged in the POM[55].

5.7. Hull Cleaning & Inspection Constraints

Although NORMAM-401/DPC sets out a strict regulatory framework for hull husbandry, there is still a significant gap between the rules and the practical infrastructure available at Brazilian ports. As a result, shipowners, operators, and masters must navigate severe operational constraints, technological limitations, and local administrative uncertainties:

a) **Absence of approved vendor frameworks:** The Brazilian Navy (DPC) has not established a centralised registry of certified hull-cleaning companies or approved vendors. In practice, any company already possessing the DPC's certifications for commercial diving (specifically the CSSM and FCEM) can claim to operate an approved biofouling reclamation system. Due to this regulatory vacuum, the burden of due diligence is shifted entirely to the shipowner procuring the underwater services.

b) **Equipment and technological shortfalls**: Fully compliant, closed-loop underwater vacuum systems capable of filtering out both macro- and microfouling are extremely expensive for most diving companies, and very few of these exist in Brazil. Most local providers rely on traditional brushing systems that capture macro-debris but allow microfouling and biological plumes to escape back into local waters. Formal equipment certification remains unavailable at present.

c) **Jurisdictional overlapping:** The Brazilian environmental framework is highly decentralised, creating layered jurisdictional overlaps between federal, state, and municipal entities. While a vessel may comply with federal maritime authority guidelines, local operations remain subject to independent environmental permissions. State environmental agencies and municipal secretariats hold autonomous authority over port waters and operate completely independently of the Navy.

d) **Regulatory compliance impasse:** Stakeholders will face substantial difficulty satisfying regional rules alongside federal laws and standards. A cleaning protocol that meets maritime authority requirements may still be blocked or penalised under stricter local regulations enforced by port authorities and local environmental protection agencies at the state and municipal levels.

[55] Chapter 5 and Annexe 6-A of NORMAM-222/DPC

6. Penalties for Non-Compliance

6.1. Breach of Regulations

The Brazilian Navy's Directorate of Ports and Coasts (DPC), through the local maritime authority, is empowered to impose administrative sanctions if a ship fails to maintain its ballast water management system (BWMS), anti-fouling system (AFS), or adhere to biofouling management standards[56]. The National Health Surveillance Agency (ANVISA) may independently impose sanctions for violations that jeopardise public health or breach federal sanitary laws.

	Legal Basis	Fine Range	Other Penalties
Water Pollution	• Law No. 9,605/1998 ("Environmental Crimes Law"), as regulated by Decree No. 6,514/2008	BRL 50 to BRL 50 million	• Restriction of rights • Detention from 3 months to 1 year • Imprisonment from 1 to 5 years • Seizure of vessel or property • Rendering of community service • Daily fines for continued offences • Partial or total suspension of activities • Temporary closure of the operation • Prohibition from contracting with public bodies
	• Law No. 9,966/2000 ("Oil Law"), as regulated by Decree No. 4,136/2002	BRL 1,000 to BRL 50 million	• Rendering of community service • Partial or total suspension of activities • Temporary closure of work or activity • Prohibition from contracting with public authorities
Ballast Water	• Law No. 9,605/1998 ("Law of Environmental Crimes"), as regulated by Decree No. 6,514/2008	BRL 1,000 to BRL 30 million	• Restriction of rights • Detention from 3 months to 1 year • Imprisonment from 1 to 5 years • Seizure of property • Rendering of community service • Daily fines for continued offences • Partial or total suspension of activities • Temporary closure of work or activity • Prohibition from contracting with public bodies
	• Law No. 9,966/2000 ("Oil Law"), as regulated by Decree No. 4,136/2002	BRL 1,000 to BRL 40 million	• Rendering of community service • Partial or total suspension of activities • Temporary closure of husbandry operations • Prohibition from contracting with public bodies
	• Law No. 6,437/1977 (Federal Sanitary Regulations)	BRL 2,000 to BRL 1.5 million	• Official administrative warning • Interdiction of the vessel • Cancellation or suspension of free pratique • Quarantine measures
AFS	• Law No. 9,605/1998 ("Law of Environmental Crimes"), as regulated by Decree No. 6,514/2008	BRL 500 to BRL 2 million	• Rendering of community service • Daily fines for continued offences • Partial or total suspension of activities • Temporary closure of husbandry operations • Prohibition from contracting with public bodies
Biofouling	• Law No. 9,605/1998 ("Law of Environmental Crimes"), as regulated by Decree No. 6,514/2008	BRL 500 to BRL 50 million	• Rendering of community service • Daily fines for continued offences • Partial or total suspension of activities • Temporary closure of husbandry operations • Prohibition from contracting with public bodies

Table 4: Legal basis for penalties for breach of maritime authority regulations. Source: NORMAM-401/DPC

[56] Articles 2.6.1 to 2.6.7, 3.3.1, 3.3.2 to 3.3.10 of NORMAM-401/DPC

The procedures implemented by the maritime authority for the assessment and valuation of penalties resulting from shipboard pollution are set out in Chapter 1 of NORMAM-401/DPC. Chapters 2, 3, and 4 specifically regulate infractions concerning the control and management of ballast water (BWM), anti-fouling systems (AFS), and biofouling, respectively. **Table 4**

6.1.1. Violation of BWM maritime standards

Compliance with the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention) is verified through inspections of relevant documentation, including the Ballast Water Management Plan (BWMP), Ballast Water Record Book (BWRB), and the International Ballast Water Management Certificate (BWMC). The maritime authority may also require the examination of other ship documents, such as deck and engine logbooks and daily tank sounding books, to ascertain adherence to applicable statutes and regulations.

Violations of Chapter 2 of NORMAM/401/DPC concerning ballast water control and management are subject to administrative procedures and penalties in accordance with relevant legislation. Specific fines are established for various categories of pollutants, such as oil/oily mixtures or individual categories of harmful or hazardous substances.

Under the relevant environmental laws, fines range from BRL 50 up to BRL 50 million per infraction, contingent upon the severity of the offence. In quantifying the fine, the maritime authority will consider the gravity of the violation, the offender's compliance history, and their economic standing. Recidivism (a new environmental infraction committed by the same offender within five years) results in a tripled fine for the very same violation, or a doubled fine for a different infraction.

The maritime authority may also levy other punitive or disciplinary penalties, including official warnings, ship detention, or a blanket prohibition on entering or departing from Brazilian ports. It is noted that any fines imposed are without prejudice to sanctions or civil claims initiated by other authorities for the recovery of costs or compensation for environmental damages.

6.1.2. Violation of BWM health regulations

While the regulations enforced by the maritime authority focus on preventing pollution and environmental degradation, the port health regulations pertain strictly to sanitary controls aimed at preventing the spread of waterborne pathogens and safeguarding public health.

Health controls at Brazilian ports are performed by the *Agência Nacional de Vigilância Sanitária* – ANVISA (National Health Surveillance Agency). The federal health regulator primarily enforces such controls through the audit of international health documents, namely the Maritime Declaration of Health (MDH), Ship Sanitation Control Exemption Certificates/Ship Sanitation Control Certificates (SSCEC/SSCC), as well as the Ballast Water Reporting Form (BWRF), among other documents. The port health authority may also condition the granting of free pratique on the execution of a sanitary inspection on board if it deems the documentation provided by the shipmaster to be insufficient or inconsistent, or if a potential public health risk has been identified aboard.

ANVISA may impose administrative sanctions if a vessel fails to maintain hygienic sanitary conditions, which include deficiencies in the ballast water treatment system (BWMS) or the unauthorised discharge of untreated or unexchanged ballast water and sediments – a practice that is strictly prohibited in Brazilian waters. Such infractions may incur penalties, imposed either alternatively or cumulatively, which include official warnings, fines, vessel interdictions, or quarantine measures, as well as mandatory interventions to rectify the deficiencies identified by the port health inspectors.

The severity of the violation determines the sanitary fines imposed by the port health authority, which are categorised as follows:

a) **Minor violations:** Fines ranging from BRL 2,000 to BRL 75,000, applicable when extenuating circumstances favour the offender.
b) **Severe violations:** Fines between BRL 75,000 and BRL 200,000, imposed in cases where an aggravating circumstance is present.
c) **Very serious violations:** Fines ranging from BRL 200,000 to BRL 1.5 million, applied when two or more aggravating circumstances are evident.

Defences against infractions are permitted, and penalties may be reduced for timely payments. Offenders must submit a defence or challenge the notice of infraction (*Auto de Infração*) within 15 (fifteen) days of notification; failure to do so will result in the infraction being adjudicated by the health authority. Following a condemnatory decision, offenders have 20 (twenty) days to appeal to the superior authority, which is ANVISA's headquarters in Brasilia. This timeframe applies uniformly to decisions regarding all penalties, including fines[57].

While an administrative appeal is pending, compliance with existing obligations or health measures mandated by the health authority remains fully enforceable, and the appeal does not possess an automatic suspensive effect.

6.1.3. Violation of AFS standards

Control of Harmful Anti-fouling Systems (AFS) is exercised through inspections of relevant certificates and declarations, namely the International Anti-fouling System Certificate (IAFSC), the Anti-fouling System Record or the Anti-fouling System Declaration.

Violations of Chapter 3 of NORMAM-401/DPC are strictly prohibited. Administrative procedures may be initiated by the maritime authority, which is empowered to issue a warning, detain the ship, or prohibit it from accessing a port or terminal. The use of unauthorised or harmful AFS coatings causing severe or irreversible damage constitutes a serious environmental infraction.

Fines are imposed based on the seriousness of the infraction, consistent with the national AFS regulations, and range from a minimum of BRL 500 to a maximum of BRL 2 million under standard administrative assessment. These amounts are calculated based on the degree of environmental harm, the offender's compliance history, and their economic situation. If the offender commits two or more infractions simultaneously, the penalties will be applied cumulatively. Furthermore, repeat offences within five years (recidivism) result in a fine multiplied by three for the same infraction, or multiplied by two for a different infraction.

6.1.4. Violation of biofouling standards

The permit application procedure for in-water reactive cleaning commenced with the publication of the revised regulation in June 2025. Penalties for non-compliance with Chapter 4 of NORMAM-401/DPC, originally scheduled for February 2026 and deferred to June 2026. However, following further institutional reviews, the full enforcement of financial penalties and administrative sanctions has been postponed to January 2028. Until this revised deadline, port and river captaincies will continue to assume a strictly advisory role, focusing on raising awareness and providing technical support to assist stakeholders in adapting to the new operational requirements.

[57] Articles 12 to 28 of Law 6,437/1977, as amended, which defines violations of federal health legislation and establishes the respect sanctions

It is anticipated that the local maritime authority will adopt a similar approach to compliance checks as seen in ballast water management and harmful anti-fouling systems (AFS), which involves initially reviewing the documentation submitted by the ship. Should any discrepancies or inconsistencies be identified in the records, the authority will conduct a physical inspection of the vessel[58].

Any action or omission that contravenes Chapter 4 of NORMAM-401/DPC constitutes an administrative infraction and is subject to sanctions. Penalties for multiple offences are cumulative.

In line with violations of other maritime authority standards, the new regulation stipulates that fines for breaching biofouling requirements will be determined based on the severity of the offence, the offender's compliance history, and their financial circumstances. Fines for transporting and releasing substances harmful to the environment range from a minimum of BRL 500 up to BRL 2 million under standard technical infractions. However, if the unauthorised release poses a risk to human health, results in the death of animals, or significantly harms local marine biodiversity, these fines can escalate up to BRL 50 million, in addition to any potential criminal and civil sanctions[59].

Recidivism within a five-year period will result in tripled fines for the same infraction or doubled fines for different violations.

[58] Ordinance DPC/DGN/MB No. 180/2025, dated 10 June 2025 and published in the Official Gazette on 17 June 2025 & Ordinance DPC/DGN/MB No. 193/2025, dated 18 December 2025 and published in the Official Gazette on 19 January 2026

[59] The assessment of administrative penalties is made in accordance with Decree 6,514/2008 as well as Law 9,784/1999, which regulates administrative proceedings within the scope of the federal public administration

7. Administrative Framework

7.1. Jurisdiction

The discharge of oil and other harmful or hazardous substances into Brazilian waters is strictly prohibited. The local maritime authority is primarily tasked with enforcing penalties related to water pollution and violations of ballast water, anti-fouling systems, and biofouling regulations, in accordance with the governing environmental legal framework[60]. Concurrent jurisdiction to impose sanctions and pursue claims for compensation for environmental harm resulting from shipboard pollution in national waters is held by federal regulatory agencies, state-level environmental authorities, and both federal and state public prosecutors.

7.2. Administrative Proceedings

Environmental liability and corresponding sanctions are determined through administrative proceedings, which may vary depending on the public authority concerned and the applicable legal statutes and regulations. Although any authority that becomes aware of an environmental violation is obliged to investigate, the responsibility typically lies with the local maritime authority in the first instance. The administrative process adheres to principles of legality, due process, and the full right of defence within the adversarial system[61]. **Table 5**

7.2.1. Notice of Infraction

The '*Auto de Infração'* (infraction notice) is the document drawn up by the relevant authority to record the administrative breach of regulations and notify the offender to produce a defence. The infraction notice must include a detailed account of the offender's misconduct and its legal basis. It can be served on the offender in person, through their legal representative, by registered post, or by public notice if the offender cannot be located.

7.2.2. Term for defence

The offender is granted a period of 20 (twenty) consecutive days to submit a defence challenging the notice of infraction, commencing from the date the offender, their legal representative, or agent acknowledges receipt of the document detailing the environmental violation and its legal context[62]. Defences will not be considered if they are presented by an unauthorised individual, or if they are submitted after the deadline or filed with an incompetent authority.

7.2.3. Security

No bond or security is required as a condition for lodging an administrative defence or appeal. The enforcement of penalties is suspended until a final and unappealable administrative decision is reached.

7.2.4. Term for hearing

The local maritime authority is obligated to adjudicate the notice of infraction within 30 (thirty) days of receiving the administrative defence or, if no defence is presented, following the expiration of the deadline for challenging the penalty. In instances of pollution by oil, oily mixtures, harmful AFS, or hazardous waste, the period for hearing the defence is extended to 60 (sixty) days[63].

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[60] Law 9,966 of 2000 ("Oil Law"), as regulated by Decree 4,136/2022, specifies sanctions applicable to violations of the rules for preventing, controlling, and monitoring pollution caused by the discharge of oil and other harmful or hazardous substances into waters under national jurisdiction, as provided for in Law 9,966/2000. Law 9,605/1998 ("Law of Environmental Crimes"), as regulated by Decree 6,517/2008, provides for criminal and administrative sanctions arising from conduct and activities that harm the environment, establishing the federal administrative proceeding for the investigation of these offences

[61] Article 70 of Law 9,605/1998

[62] The time limits for administrative proceedings are calculated in consecutive days, excluding the day on which they begin and including the day on which they expire

[63] Article 70 of Law 9,605/1998; Articles 1.4.2, 2.6.4, 3.3.6 & 3.3.8 of NORMAM-401/DPC

7.2.5. Administrative appeal

An offender dissatisfied with the decision rendered by the local maritime authority on grounds of legality and merit may file an appeal to the Directorate of Ports and Coasts (DPC), the final administrative instance, within 20 (twenty) days of acknowledging receipt of the initial decision. The appeal must be directed to the authority that rendered the decision. If the authority does not reconsider within 5 (five) days, they must forward the appeal to the DPC[64], which must hear the administrative appeal within 30 (thirty) days of filing[65].

7.2.6. Penalty assessment

In cases of multiple violations, cumulative penalties will be imposed. When determining penalties, the maritime authority must consider the severity of the infraction, the offender's compliance history with environmental regulations, and their financial circumstances. Aggravating or mitigating factors will also influence the determination of penalties. Administrative infractions are subject to a range of penalties, from warnings and simple fines to daily fines, seizure, or quarantine, without prejudice to any civil and criminal liabilities[66].

Step	Description	Deadline
Notice of Infraction	• Issued by the relevant authority to record the administrative breach and notify the offender to produce a defence.	• No specific deadline for issuance.
Term for defence	• Offender must submit a written defence challenging the Notice of Infraction	• 20 consecutive days from receipt of the Notice.
Security	• No bond or security is required for lodging a defence or appeal. Enforcement of penalties is suspended until a final decision is reached.	• Not applicable.
Term for hearing	• The maritime authority adjudicates the notice of infraction after receiving the defence or after the defence deadline expires.	• 30 days (or 60 days for pollution-related cases).
Administrative appeal	• The offender may file an appeal to the Directorate of Ports and Coasts (DPC) if dissatisfied with the decision.	• 20 days from receipt of the decision.
Reconsideration period	• Authority that rendered the decision may reconsider the appeal.	• 5 days from receipt of the appeal.
Decision on appeal	• DPC must address the administrative appeal.	• 30 days from filing the appeal.
Penalty assessment	• Penalties are determined based on the severity of the infraction, compliance history, and financial circumstances.	• No specific deadline for assessment (subject to a 5-year time bar)
Deadline for fine payment	• Offender must pay fines after receiving formal notification of the final decision	• 5 days from formal notification.

Table 5: Key steps and deadlines in administrative proceedings. Source: NORMAM-401/DPC

[64] Article 56 of Decree 9,784/1999 regulates administrative appeals within the Federal Public administration, establishing the right to challenge decisions based on legality or merit

[65] Article 71 of Law 9,605/1998; Article 124 of Decree 6,514/2008; Articles 1.4.2, 2.6.5, 3.3.8 & 4.5.4 of NORMAM-401/DPC

[66] Article 70 of Law 9,605/1998

7.2.7. Deadline for payment of fines

If the DPC upholds the imposition of a fine, the offender is required to remit payment within 5 (five) days following formal notification of the authority's final decision[67]. Failure to pay imposed fines will result in the offender being registered in the Federal Active Debt maintained by the National Treasury Attorney's Office, and outstanding debts will accrue monetary adjustments for inflation until settled[68].

7.3. Exclusion of Liability

7.3.1. Lack of causal link

Liability for administrative penalties may be excluded if the accused party can demonstrate the absence of causation between their action or omission and the infraction.

7.3.2. Fortuitous event & force majeure

The duty to pay administrative fines or civil compensation may be absolved for offences or damages arising from circumstances beyond the offender's control, such as fortuitous events (Acts of God) or force majeure.

7.3.3. Third-party fault

Liability for administrative fines can be excluded if the accused can prove that the breach of regulation or environmental damage was caused solely by a third party. While legislation imposes strict civil liability for pollution, it also affords the polluter the right to seek recovery from the third party determined to be at fault[69].

7.4. Limitation Periods

7.4.1. Time bar for administrative penalties

Public administration is bound by a statutory limitation period of 5 (five) years for administrative actions aimed at investigating breaches of environmental regulations and imposing penalties. This period commenced from the date of the infraction or, in the case of ongoing violations, from the date they ceased. If the infraction also constitutes a criminal offence, the time bar will be governed by the relevant penal law[70]. Should the infraction procedure remain unresolved for over 3 (three) years, the case will be archived either automatically or upon request from the interested party, without prejudice to the offender's subsisting obligation to remedy any environmental damage.

7.4.2. Time bar for environmental claims

Generally, a three-year time bar applies for the reparation of damages[71], unless a specific stipulation in the relevant statute dictates otherwise. In the absence of such provisions, there were debates regarding the limitation period applicable to claims for redress or compensation related to ship-sourced environmental damage. However, in a binding ruling rendered in 2020, the Brazilian Federal Supreme Court (STF) embraced prevailing jurisprudence and legal doctrine, affirming that the environment is a fundamental, inalienable, and diffuse asset essential to life. As a result, it ruled that civil claims for recovery related to environmental damage are not subject to a limitation period[72].

[67] Article 71 of Law 9,605/1998 & Article 126 of Decree 6,514/2008

[68] Articles 2.6.7, 3.3.11 & 4.5.6 of NORMAM-401/DPC

[69] Articles 188 & 930 of the Brazilian Civil Code

[70] Article 21 of Decree 6,514/2008

[71] Article 206 of the Brazilian Civil Code

[72] Federal Supreme Court's plenary decision with binding effect on the Extraordinary Appeal (RE) 654.833/AC dated 20/04/2020

8. Takeaways & Uncertainties

8.1. Key Recommendations

As stakeholders review the practical guidelines outlined in this manual, navigating Brazil's intricate marine environmental protection framework requires balancing the strict statutory rules of NORMAM-401/DPC and other maritime authority standards against the developing domestic infrastructure. Ultimately, managing compliance involves recognising the exact boundaries where strict regulations meet current operational limitations and shortcomings.

Risk Area	Federal Framework Requirement	Operational Reality
Penalties & Fines	• Full enforcement of statutory fines.	• Fines officially deferred until January 2028; full compliance is still expected.
Vendor Approvals	• Use of approved biofouling reclamation systems.	• No centralised Navy registry exists; any provider can claim compliance.
Technology Limits	• Complete capture of macro and microfouling.	• Compliant closed-loop vacuum systems are scarce; brushes dominate the market.
Local Jurisdictions	• Baseline federal maritime authority compliance.	• State and/or municipal environmental agencies can independently halt operations.
Contractual Terms	• Shared standard service liabilities.	• Vendors may impose strict "hold harmless" clauses shifting all risk onto the shipowner.
Location Permits	• General permission for port husbandry.	• Cleaning at anchorages and berths may be subject to local port authority and/or environmental agency approval.

Table 6: Summary of key takeaways and regulatory ambiguities introduced by NORMAM-401/DPC

8.2. Regulatory compliance

- ✓ **NORMAM-401/DPC's deferred sanctions:** Although the full enforcement of administrative fines has been officially postponed until January 2028, the regulations remain actively in force. Qualifying vessels must arrive with a clean hull (biofouling rating Level ≤ 1) and carry ship-specific documentation. While there will be no sanctions or delays during the grace period, the advisory role adopted by the maritime authority must not be mistaken for a carte blanche exemption from compliance.

- ✓ **ANVISA's ballast water controls:** These are distinct from, yet complementary to, environmental and maritime regulations. They focus strictly on avoiding the introduction of pathogens into national waters to protect public health.

- ✓ **Port-specific requirements and restrictions:** Local port or maritime authorities often issue specific regional regulations concerning reporting on the management of ballast water and biofouling and obtaining permits for underwater husbandry. Always verify specific local regulations with the vessel's shipping agent, as these can supersede the maritime authority's provisions.

8.3. Overall Preparedness

- ✓ **Proactive planning:** Initiate compliance assessments and planning well before port arrival to avoid delays and potential penalties.
- ✓ **Ship-specific management plans:** Develop, implement, and continuously update all required ship-specific, environmental-related management plans –including the Ballast Water Management Plan (BWMP) and Biofouling Management Plan (BFMP)– well in advance.
- ✓ **Navigating local complexity:** Beyond national regulations, the highly decentralized Brazilian environmental framework necessitates continuous, proactive engagement with all levels of local authorities and robust communication with local shipping agents to avoid unexpected obstacles and potential penalties due to site-specific rules or interpretations. This proactive approach is crucial, especially concerning in-water operations and waste disposal.
- ✓ **Verify service providers:** Thoroughly vet all local service providers (e.g., diving companies, waste handlers) by checking their DPC accreditation, licences, and credentials through the local shipping agent to ensure full compliance.

8.4. Ballast Water Management

- ✓ **Prohibition of untreated discharges:** Untreated or unexchanged ballast water, sediments, and shipboard residues must not be discharged into Brazilian waters. Utilise designated reception facilities and carefully record all transfers.
- ✓ **D-2 Standard compliance:** The D-2 Performance Standard (BWMS treatment) is generally mandatory for international voyages to Brazil since September 2024, unless the vessel is explicitly covered by a Certificate of Exemption (CISEN).
- ✓ **Brazilian Dilution Method (MDM):** If using the BDM, ballast operations must meet the same rigorous requirements as the D-1 Standard, including 95% volumetric exchange and specific offshore location criteria.
- ✓ **Ballast water reporting:** Reporting is crucial for maritime and port authorities, as well as ANVISA, which requires this information as a strict condition for granting free pratique.

8.5. Anti-fouling Systems (AFS)

- ✓ **Continuous monitoring:** Monitor the AFS condition to ensure effectiveness. Any modifications or replacements to the AFS necessitate updated documentation and statutory certification.
- ✓ **Banned substances:** Strictly ensure the applied AFS does not contain prohibited active agents, such as organotin compounds or cybutryne. Violations may lead severe administrative penalties.

8.6. Biofouling Management

- ✓ **Biofouling thresholds:** For vessels over 24 metres, ensure biofouling remains at Level ≤ 1 before entering Brazilian waters or transiting between biogeographic regions. Proactively plan for cleaning if higher levels are detected.
- ✓ **In-water cleaning permits:** Reactive in-water cleaning, particularly for Level ≥ 2 biofouling, requires a permit and typically mandates debris waste capture. Never proceed without prior authorisation.
- ✓ **Overlapping port rules:** State and municipal environmental agencies operate independently of the Navy. Stakeholders may encounter impasses where a cleaning protocol deemed compliant by the maritime authority standards may still be blocked or penalised by state inspectors enforcing localised discharge thresholds.

- ✓ **15-day stationary expiry trigger:** If a vessel remains stationary, drifts, or navigates at speeds below 10 knots for a continuous period exceeding 15 consecutive days between its last in-water inspection or cleaning and subsequent entry into Brazilian waters (or transit between biogeographic zones), the inspection report expires. A new pre-transit survey must be executed at the last port of call.
- ✓ **Leveraging the advisory period:** The current deferral of punitive enforcement until January 2028 provides a critical window. Stakeholders should proactively use this time for internal training, system implementation, clarifying ambiguities with authorities, and ensuring full operational readiness rather than merely awaiting the enforcement date

8.7. Proceedings & Financial Exposure

- ✓ **Overlapping jurisdiction:** Multiple authorities (DPC, ANVISA, IBAMA, state environmental agencies, and public prosecutors, etc.) hold concurrent jurisdiction to commence administrative proceedings and impose sanctions for environmental offences.
- ✓ **Contractual risk shifts:** Due to the lack of official vendor certification frameworks, local diving contractors often use "hold harmless" clauses. These terms contractually shift all legal and financial risks of local regulatory intervention or equipment failure entirely onto the shipowner.
- ✓ **Period of grace limitations:** While the enforcement of fines specific to biofouling record-keeping is deferred until January 2028, local maritime authorities maintain a strictly advisory and educational enforcement role until this date.
- ✓ **Prompt infraction responses:** Respond to all formal infraction notices immediately. Strictly adhere to deadlines for submitting administrative defences and appeals to preserve the right to challenge penalties.
- ✓ **Substantial fine thresholds:** Fines for breaches of maritime authority standards and marine pollution are severe, ranging from BRL 500 to BRL 50 million, with recidivism (repeat offence) within five years resulting in doubled or tripled penalties.
- ✓ **Perpetual environmental damage civil claims**: Civil claims for the redress of environmental damage currently have no limitation period in Brazil, meaning environmental liability extends indefinitely.

9. Conclusion

Effective management of ballast water, harmful anti-fouling systems, and biofouling is crucial to protect marine ecosystems, prevent the spread of invasive aquatic species (IAS), safeguard public health, and mitigate commercial and legal risks. Brazil's comprehensive regulatory marine environment framework codified in NORMAM-401/DPC aligns with key international standards, including the 2001 IMO AFS Convention, the 2004 IMO BWM Convention, and the 2023 Biofouling Guidelines.

Brazil stands out globally by transforming these otherwise voluntary Biofouling Guidelines into a mandatory statutory regime for all commercial vessels exceeding 24 metres in length operating within national waters. The country joins other stringent jurisdictions – such as Australia, New Zealand, and the State of California – which have similarly incorporated the core of the IMO biofouling guidelines into their domestic biosecurity legislation to enforce strict pre-arrival reporting, vessel-specific management plans, and wetted-surfaces thresholds.

This guide provides a practical overview of the core requirements, operational parameters, and underlying administrative exposures introduced by this evolving maritime authority regulation. It underscores the critical need to maintain ship-specific compliance documentation. Maintaining these alongside accurate logs is essential to safeguard against Port State Control deficiencies, interventions by overlapping environmental authorities, and costly delays.

Although the Directorate of Ports and Coasts (DPC) has officially deferred the enforcement of formal non-compliance fines and sanctions until January 2028, this grace period must not be misconstrued as an exemption from the underlying statutory obligations. The operational standards, record-keeping mandates, and pre-arrival reporting rules under NORMAM-401/DPC have been fully active since June 2025; the deferred punitive enforcement simply serves as an educational transition window. Maritime authorities strongly urge stakeholders to implement compliant biofouling and ballast routines immediately to avoid non-conformity records, despite the temporary absence of fines.

As Brazil continues to refine its maritime environmental standards, staying informed about regulatory updates is vital to avoid financial exposure and delays. **PROINDE** remains committed to assisting the broader maritime community in navigating this somewhat complex and shifting regulatory landscape. We highly value your feedback to enhance future editions of this manual and encourage readers to subscribe to our regular updates and newsletters for continued guidance on Brazilian maritime rules.

Please refer to our **disclaimer**.

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