



Ballast Water and Biofouling Regulations in Brazil

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Practical Guidance

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1. Foreword

To address these challenges, the International Maritime Organisation (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. 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 2025 by the 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 for marine pollution and non-compliance.

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

This guide provides practical insights into Brazil's regulatory landscape on the protection of the marine environment, offering ship operators and masters useful information to enhance effective risk management strategies. For easy navigation, this publication is structured into chapters and includes hyperlinks for cross-references. As regulatory frameworks evolve, this guide will be updated to reflect new developments. Staying informed about these changes is essential for ensuring compliance and protecting marine ecosystems.

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2. Ballast Water Management

2.1. Ballast water definition

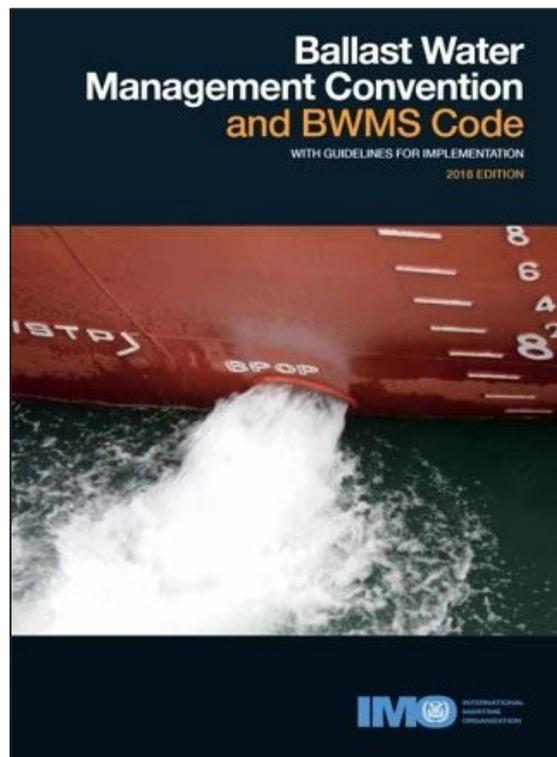
According to the International Maritime Organisation (IMO), ballast water “means water with its suspended matter taken on board a ship to control trim, list, draught, stability or stresses of the ship”. The introduction of invasive aquatic species (IAS) and pathogens through ships’ ballast water to new 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 with 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 2017². 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) ballast water management plan, ii) ballast water record book, and iii) International Ballast Water Management Certificate (BWMC) for ships of 400 GT and above. **Picture 2**

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 from September 2017. Following the legislative process, Executive Decree 10,980/2022 promulgated the Convention, which came to effect in February 2022

2.3. Domestic maritime regulations

The Navy's Directorate of Ports and Coasts (DPC) serves as Brazil's maritime authority, responsible for regulating and enforcing international maritime conventions and guidelines in the country. This is achieved through a dynamic set of authority standards, known as 'NORMAMs', which are regularly 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, NORMAM-20/DPC 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. It aimed to prevent the transfer of exotic or pathogenic organisms into the Amazon ecosystem.

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. Eventually, the Amazon Exchange rule was discontinued with the NORMAM-20/DPC update in 2014.

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, now 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 include a dedicated chapter on ship biofouling management, complementing existing provisions concerning ballast water management, anti-fouling systems and administrative proceedings for assessing penalties for pollution incidents, including the dumping of oil and other harmful or dangerous substances in Brazilian waters. **Chapter 4**

2.3.1. Application

Under Chapter 2 of NORMAM-401/DPC, all commercial ships, whether national 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 standards³.

2.3.2. 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 protect human life or the vessel's safety.
- **Emergencies:** Instances where it is necessary to collect 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 where there is an 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 of the damage or discovery of the damage or discharge to prevent or minimise the discharge, unless the shipowner, company, or officer in charge wilfully or recklessly caused damage.
- **Pollution prevention:** Situations where the collection and discharge of ballast water and sediment are carried out to prevent or minimise pollution incidents caused by the vessel.
- **Discharge location:** When the uptake or discharge of ballast water and sediments occurs in the same location where the ballast water and sediments originated, ensuring no mixing with ballast water and sediments from other areas.
- **Contingency situations:** Instances where managing ballast water through treatment is not possible due to unforeseen circumstances. Any occurrence of the above exceptions must be reported to the local maritime authority as soon as possible and supported by appropriate documentary evidence⁴.

2.3.3. Exemptions

Vessels fitted with sealed ballast water tanks that are not subject to discharge, as well as those not designated or built to hold ballast water, are exempt from ballast water management requirements. Additionally, Brazilian-flagged ships operating exclusively within domestic cabotage (in the Exclusive Economic Zone – EEZ) are exempt⁵.

The Directorate of Ports and Coasts (DPC) may grant exemptions to foreign-flagged vessels operating solely in Brazilian waters from ballast water management obligations 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 '*Registro Especial Brasileiro*' - REB (Brazilian Special Registry). Qualifying vessels will receive a '*Certificado de Isenção*' - CISEN (Certificate of Exemption) from the DPC, valid for five years and subject to intermediate review⁶.

³ 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)

⁴ Article 2.1.2 of NORMAM-401/DPC

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

⁶ Article 2.1.4 and Annexe B of NORMAM-401/DPC

Exempted ships are still required to carry the applicable statutory documentation, including the CISEN. 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 NORMAM-401/DPC⁷. **Picture 5**



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

2.3.4. Documentary requirements

All vessels subject to the provisions of NORMAM-401/DPC are required to undergo inspections by the Port State Control to ensure compliance. These vessels must carry the following documentation as evidence of adherence to the ballast water regulations⁸:

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 an AIT and operating exclusively in Brazilian waters, the BWMP must be written in Portuguese.

⁷ Articles 2.1.3 & 2.1.4 of NORMAM-401/DPC

⁸ Article 2.2.1 of NORMAM-401/DPC

b) International Ballast Water Management Certificate (BWMC):

This certificate is required for ships of 400 gross tonnage and above. It must specify which standard the ship has adopted and must conform to the format set out in NORMAM-331/DPC⁹.

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 recorded¹⁰.

Ships may opt to use a BWRB in a class-approved electronic format, provided it includes all ballast water information required in the maritime authority forms¹¹.

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/DPC¹²) or the Vessel's Arrival Notice (Annexe 1-H of NORMAM-204/DPC), as applicable.

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 open seas 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 IAS and pathogens when ballast water is discharged.

Ballast Water Exchange Methods	
Sequential method	<ul style="list-style-type: none"> Ballast water tanks are drained and then refilled with ocean water.
Continuous flow method	<ul style="list-style-type: none"> Ballast water tanks are simultaneously filled and drained by pumping ocean water.
Brazilian dilution method	<ul style="list-style-type: none"> Ballast water is drawn from the top while simultaneously discharging 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 per cent volumetric ballast water exchange. For vessels using the continuous flow or dilution methods, they 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 met.

⁹ "Normas da Autoridade Marítima para Reconhecimento de Entidades Especializadas" (Maritime Authority Standards for the Recognition of Specialised Entities), NORMAM-331/DPC, 2023 Edition

¹⁰ 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

¹¹ 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

¹² "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

If mid-ocean ballast exchange (200 nm from shore) is not feasible, the operation can be done as far from the shore as possible. Still, it must be no less than 50 nm offshore in waters at least 200 m deep, with the master justifying this decision in the ballast water record book (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 (UC) 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)¹³.

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 circumstances¹⁴.

2.4.3. Brazilian Dilution Method (BDM)

The Brazilian Dilution Method, developed by a Brazilian shipowner and accepted by the maritime authority, involves 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 exchange¹⁵.

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.

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.

¹³ 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)

¹⁴ Article 2.3.2 of NORMAM-401/DPC

¹⁵ 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 concentrations¹⁶.

Performance Standard Limits for Viable Organisms	
Large organisms (≥50 µm)	<ul style="list-style-type: none"> Less than 10 viable organisms per cubic meter (e.g., zooplankton).
Small Organisms (10–50 µm)	<ul style="list-style-type: none"> Less than 10 viable organisms per millilitre (e.g., phytoplankton).
Indicator microbes (pathogens)	<ul style="list-style-type: none"> Toxicogenic <i>Vibrio cholerae</i>: less than 1 colony-forming unit (cfu) per 100 ml. <i>Escherichia coli</i> (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

2.6. Ballast tank sediments management

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 in 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 BWMP¹⁷.

2.7. Navigation between river basins

All vessels navigating between river ports or terminals in different hydrographic basins must manage their ballast water. Ships not fitted with an operational BWMS on board must conduct ballast water exchange when transiting between distinct basins by sea.

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 ballast water management plans and the Ballast Water Information Table or Notice of Entry (NORMAM-204/DPC’s Annexes 1-B and 1-H). It also reviews the ballast water record book and the International Ballast Water Management Certificate to ensure the accuracy of entries and check the expiration dates of endorsements.

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

¹⁶ Article 2.3.1 of NORMAM-401/DPC

¹⁷ Section 2.4 of NORMAM-401/DPC

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.

A completed Ballast Water Reporting Form is a mandatory document required from the master or ship officer for ANVISA to grant health clearance (free pratique). Ships must provide detailed data on their ballast management to receive permission to berth and operate¹⁸.

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 protected areas¹⁹.

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 analysis and assessment of operational and hygienic-sanitary conditions on board, based on a review of health documents submitted by the master through the local shipping agent²⁰.

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
- Ballast Water Management Plan
- Ballast Water Management System
- International Ballast Water Management Certificate
- Ballast Water Record Book

¹⁸ Articles 5, 8 & 62 to 65 of ANVISA RDC 72/2009

¹⁹ Article 66 of ANVISA RDC 72/2009; IMO 2004 BWM Convention; WHO 2011 Guide to Ship Sanitation

²⁰ Articles 5, 10, 16 to 22, 24 & 25 of ANVISA RDC 72/2009

If the documentary analysis shows no evidence of health risks, ANVISA will grant the CLP “by radio” (notifying health clearance via the Paperless Port system - PSP²¹) 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.

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 port²².

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**

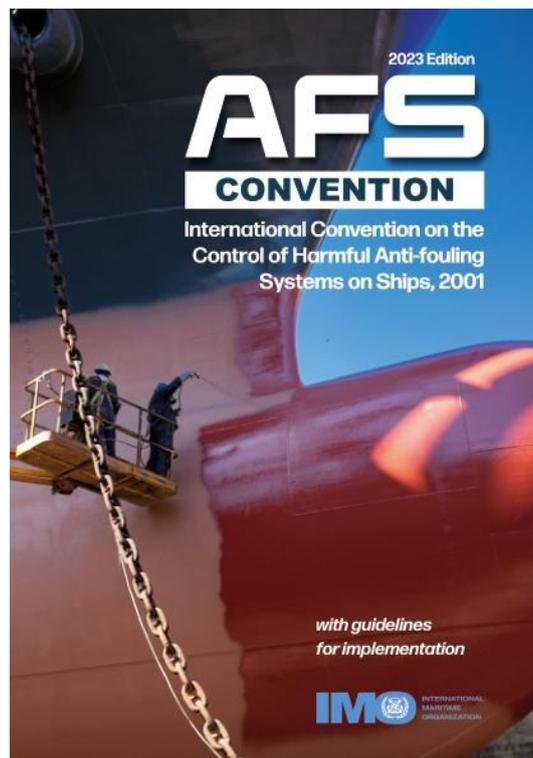
²¹ The *Porto Sem Papel* - PSP (Paperless Port) is a single window system connecting multiple government authorities and port users for streamlining processes. The PSP is managed by the federal government

²² Articles 10 to 25 of ANVISA RDC 72/2009

3. Harmful Anti-Fouling Systems

3.1. AFS definition

The International Maritime Organisation (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”²³. Although these systems have proven effective in preventing marine growth, some anti-fouling coatings (AFC) 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 from consuming contaminated seafood, especially from species affected by harmful AFS utilising organotin compounds as biocides²⁴.

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”), which has been 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. In 2023, amendments were implemented to include a ban on certain organotin compounds that behave as biocides. **Picture 6**

²³ Article 2 of the 2001 International Convention on the Control of Harmful Anti-fouling Systems on Ships (AFS Convention), by the IMO

²⁴ 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 Anti-fouling Systems in Vessels), 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), coded as NORMAM-20/DPC. This update revoked NORMAM-23/DPC and incorporated its provisions related to harmful anti-fouling systems into a 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 rebranded as "*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) and recoded as NORMAM-401/DPC. This version also addressed pollution fines and ballast water management alongside harmful AFS. **Picture 7**

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 coating and to foreign-flagged ships undergoing such painting in the country or operating in national waters under an '*Atestado de Inscrição Temporária*' - AIT (Temporary Registration Certificate).

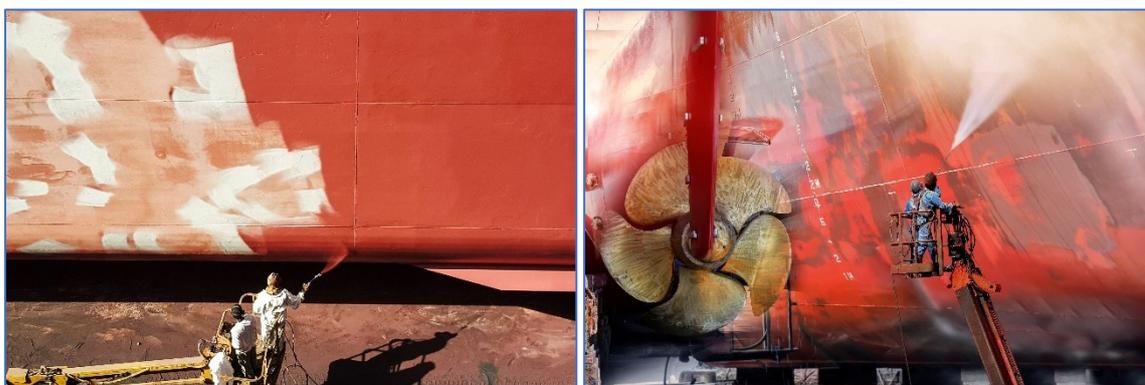
Measures implemented to address harmful AFS must not unduly impede vessel operations or lead to unwarranted detention²⁵.

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 temporarily for non-commercial government purposes. However, the standards also extend to platforms and other waterborne constructions that are subject to registration with the maritime authority and are capable of navigation on water²⁶.

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, specified in NORMAM-331/DPC, must be part of the vessel's operation documentation and be issued following the format laid down in the AFC Convention²⁷.



Pictures 8 & 9: Anti-fouling coating (AFC) being applied on 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 GT or above, including:

- Brazilian vessels
- Foreign-flagged vessels undergoing painting in Brazil
- Ships using AFS that are chartered in Brazil under an AIT regime

The certificate is issued by classification societies or accredited entities following initial or renewal surveys for the issuance of a '*Certificado de Segurança da Navegação*' - CSN (Safety of Navigation Certificate) issued in accordance with NORMAM-201/DPC²⁸.

b) International Anti-fouling System Declaration:

An Anti-fouling System Declaration, issued by the shipowner or shipping agent and endorsed by the maritime authority, is required for smaller Brazilian vessels (> 24 metres of length overall, < 400 GT). 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 subject to the prohibition of banned AFS where applicable.

²⁵ Articles 3.1.1, 3.2.1, 3.2.2 & 3.3.1 of NORMAM-401/DPC

²⁶ Article 331 of NORMAM-401/DPC

²⁷ Articles 3.3.2 & 3.3.3 of NORMAM-401/DPC

²⁸ '*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)

3.3.4. Surveys and inspections

Subject vessels must undergo initial surveys, renewal surveys every five years, and surveys whenever there are changes to the anti-fouling system. Fixed or floating platforms, FSUs, and FPSOs are generally exempt from these requirements.

The maritime authority conducts naval inspections 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 flag²⁹.

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 sea³⁰.

AFS waste, which typically consists of paint residues and fouling organisms, must be managed in an environmentally responsible manner. Disposal should be carried out by a specialised shipboard waste management company that holds the necessary licensing from the relevant environmental agency and local port authority.

²⁹ Articles 3.2.4 & 3.2.5 of NORMAM-401/DPC

³⁰ Article 3.2.7 of NORMAM-401/DPC

4. Biofouling Management

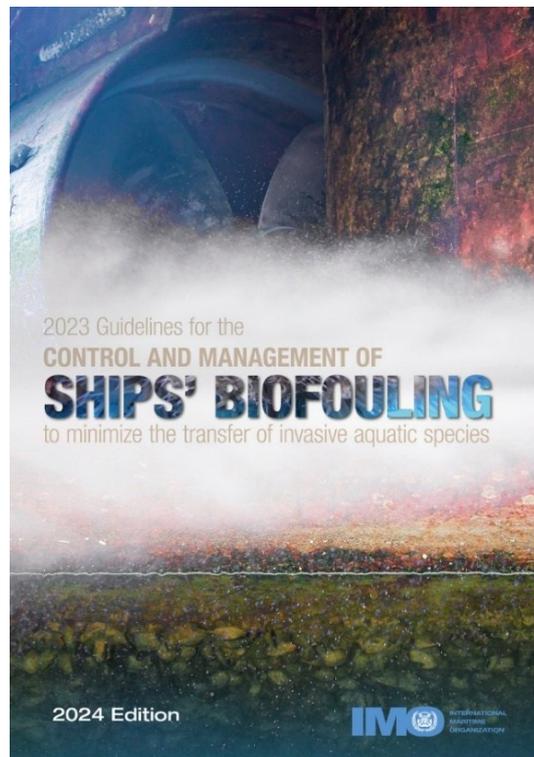
4.1. Biofouling definition

The International Maritime Organisation (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 pathogens³¹”.

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 speed and a corresponding increase in fuel consumption, thereby exacerbating greenhouse gas (GHG) emissions.

4.2. International conventions

While the compulsory IMO 2001 AFS Convention primarily focused on banning harmful biocides in anti-fouling systems (AFS), it did not directly address the physical transfer of AIS via organisms that still managed to attach or grow on areas not covered by effective AFS.



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

To bridge this emerging regulatory gap, the IMO initially introduced the “2011 Guidelines for Control and Management of Ships’ Biofouling to Minimise the Transfer of Invasive Aquatic Species” (“2011 Biofouling Guidelines”)³². These aimed to raise awareness of AIS risks associated with hull surfaces and niche areas by providing best practices, though their global uptake eventually proved insufficient. **Picture 10**

³¹ 2023 Biofouling Guidelines

³² 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’s Marine Environment Protection Committee (MEPC) through Resolution MEPC.207(62)

Following an analysis of the limited impact of the initial guidelines, the IMO adopted the more comprehensive “2023 Guidelines for Control and Management of Ships’ Biofouling to Minimise the Transfer of Invasive Aquatic Species” (“2023 Biofouling Guidelines”)³³. These updated guidelines reflect a more thorough approach to managing biofouling, incorporating specific measures and a greater emphasis on monitoring and stakeholder collaboration.

The 2023 Biofouling Guidelines strive 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
- Effective AFS installation and maintenance
- A ship-specific Biofouling Management Plan (BFMP)
- Robust monitoring and inspection protocols
- A thorough, tailored assessment of biofouling risks for both hull surfaces and niche areas
- Proactive and reactive cleaning strategies
- Diligent record-keeping through a Biofouling Record Book (BFRB) documenting all control and management activities, including inspections, cleaning and maintenance
- Comprehensive crew training and education

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

4.3. Maritime Authority Regulations

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), coded NORMAM-401/DPC, was first issued in 2023. This standard repealed NORMAM-20/DPC and integrated its provisions relating to ballast water, harmful AFS, and the assessment of administrative penalties for pollution caused by vessels and platforms. **Picture 11**

In 2025, NORMAM-401/DPC received a significant update, introducing a dedicated chapter specifically addressing ship biofouling control and management.

While the procedure for applying for a permit for in-water reactive ship cleaning came into effect on 17 June 2025³⁴, full enforcement of penalties and sanctions for non-compliance is scheduled to enter into force on 10 June 2026³⁵. However, this enforcement date may eventually be postponed. **See Section 5.1.4**

4.3.1. Application

Under NORMAM/401/DPC, all ships over 24 metres in length, whether underway, anchored, or laid up within Brazilian jurisdictional waters, must adhere to the 2023 Biofouling Guidelines and the corresponding mandatory maritime authority standard³⁶.

³³ 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)

³⁴ Ordinance DPC/DGN/MB No. 180/2025, dated 10 June 2025 and published in the Official Gazette on 17 June 2025

³⁵ Ordinance DPC/DGN/MB No. 193/2025, dated 18 December 2025 and published in the Official Gazette on 19 January 2026

³⁶ Article 4.2.1 of NORMAM-401/DPC

4.3.2. Exceptions

'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 undertaken to safeguard human life or ensure the safety of the ship.
- Instances where compliance can be waived to guarantee the safety of the vessel and the people on board in an emergency, or to rescue human lives at sea.
- Accidental release of biofouling waste into the environment resulting from an incident, casualty or fact of navigation.

In the case of an exceptional situation, the local maritime authority must be promptly notified, either directly or through the shipping agent³⁷.



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

4.3.3. Exemptions

The following categories of ships are exempt from compliance with these regulations:

- Brazilian Navy ships or any other vessel owned or operated by a State used in non-commercial government service.
- Vessels that have not entered other jurisdictional waters since the last docking, provided they are not in an “exceptional situation” as defined by the regulations.
- Oil and gas platforms are subject to the environmental licensing process, as well as the vessels used in support of the activity provided for in that license.

Exempted vessels must still take measures to prevent the discharge of harmful residual substances into the environment³⁸.

³⁷ Article 4.1.2 of NORMAM-401/DPC

³⁸ Article 4.1.3 of NORMAM-401/DPC

4.3.4. 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 maritime authority standard mandates that qualifying ships maintain on board:

a) 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 minimally include the following ship-specific information:

- **Proactive maintenance and cleaning regime:** A detailed maintenance and cleaning schedule, tailored to the vessel-specific risk assessment, ensuring the effective management of biofouling, in line with Appendix 1 of the IMO Biofouling Guidelines.
- **Inspection schedule:** A comprehensive schedule for inspections to be conducted between docking periods and during dockings, as outlined in the risk assessment.
- **Cleaning procedures:** Clear procedures for executing cleaning actions when macrofouling is identified during inspections.
- **Contingency procedures:** A structured approach for managing biological fouling that may accumulate if the vessel deviates from its intended operational profile.
- **Coating System Maintenance:** A maintenance regime for repairing, maintaining, and renewing the anti-fouling coating (AFC) system based on the manufacturer's guidelines, particularly when nearing the end of its effective lifespan.
- **Monitoring Marine Growth Prevention Systems (MGPS):** Regular monitoring of the MGPS to evaluate their efficacy in inhibiting biofouling. This must include scheduled maintenance according to the manufacturer's instructions. Examples of MGPS include chemical injectors in internal seawater systems, ultrasound devices, and anodes.
- **Safety Procedures and Crew Training:** Comprehensive safety procedures for both the ship and crew, along with training and familiarisation programs related to biofouling management practices.
- **Waste Management (Capture):** Protocols for the capture³⁹, collection, and final disposal of biofouling management waste, ensuring compliance with environmental regulations.

b) 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. It should be divided into two distinct parts:

Part I - Biofouling Management Activities: The first section should document all activities outlined in the BFMP. It includes comprehensive records of planned activities, as well as observations of biofouling conditions before and after proactive cleaning⁴⁰. Such information is necessary for the continued improvement of the risk assessment provided by the BFMP.

Part II - Monitoring Biofouling Risk Parameters: The second section of the BFRB should track 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. Additionally, it should document the contingency actions taken in response to these operational deviations.

³⁹ 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."

⁴⁰ 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."

By maintaining thorough BFMP and BFRB, vessels can ensure compliance with environmental standards and enhance the effectiveness of their biofouling management strategies.

4.3.5. Biogeographic regions

Given the extensive Brazilian coastline and its unique biotic and abiotic features, beyond the voluntary IMO 2023 Biofouling Guidelines, NORMAM-401/DPC introduced specific requirements for navigation between different marine ecosystems. Annexe I of the maritime authority standard identifies three distinct marine biogeographical regions along the coast⁴¹. **Picture 12**



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

Northern Biogeographic Region (green): Comprising 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.

⁴¹ Article 4.3.1 and Annexe I of NORMAM-401/DPC

- a) **Northeast Biogeographic Region (yellow):** This biogeographical region extends from the Maritime Basin of Ceará (from Alto do Tutóia) to the Maritime Basin of the Mucuri River, in the Northeast Region.
- b) **Southeast-South Biogeographic Region (blue):** It stretches from the Maritime Basin of Espírito Santo (bounded to the north by the Mucuri River, in the southern limit of the state of Bahia), across the Southeast Region to the Maritime Basin of Pelotas (limited to the north by the Zone of Subtropical Convergence of the South Atlantic, at the parallel 28° South, until the border with Uruguayan waters to the south), in the South Region.

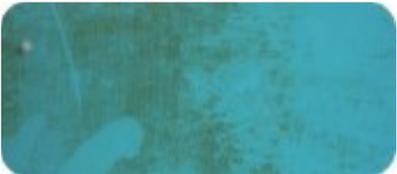
Rating	Description	Coverage	Action
 <p>0. No biofouling</p>	Surface entirely clean. No visible biofouling on surfaces.	-	-
 <p>1. Microfouling</p>	Submerged areas partially or entirely covered in microfouling ⁴² . Metal and painted surfaces may be visible beneath the fouling.	-	Proactive cleaning of the hull, niche areas and other submerged areas.
 <p>2. Light macrofouling</p>	Presence of microfouling and multiple macrofouling ⁴³ 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.
 <p>3. Medium macrofouling</p>	Presence of microfouling and multiple macrofouling patches.	16% to 40%	
 <p>Heavy macrofouling</p>	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: NORMAM-401/DPC

⁴² 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."

⁴³ 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."

4.3.6. Biofouling rating scale

For vessels exceeding 24 meters 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 equal to or less than Level 1, as defined in Annexe J of NORMAM-401/DPC. **Table 3**

If a vessel is navigating between different marine biogeographical regions or plans to enter Brazilian jurisdictional waters displaying a fouling level of light macro-fouling (Level 2) or higher (Levels 3 and 4), hull cleaning—whether in the water or in dry dock—will be required⁴⁴.

4.4. In-water cleaning

The 2023 Biofouling Guidelines advocate for 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. These inspections, conducted in accordance with the biofouling rating scale provided in both Table 1 of the IMO Biofouling Guidelines and Annexe J of NORMAM/401/DPC, determine whether cleaning may be required in line with the ship's Biofouling Management Plan (BFMP).

- **Proactive cleaning:** As defined in the Guidelines, this involves the periodical removal of microfouling attached to ships' hulls, niches, or other underwater surfaces, with or without capture, to prevent or minimise macrofouling growth. Cleaning without capture is prohibited for biofouling with a rating of Level 2 or greater. It must only be performed in areas specifically designated for this purpose by the relevant local authority.
- **Reactive cleaning:** This corrective action involves the removal of biofouling from ships' hull and niche areas, either in water with capture or during dry docking. While in-water cleaning with capture can be applied to manage any biofouling rating level, reactive cleaning must always be conducted with capture for biofouling rated Level 2 or above.

All biofouling control and management actions, including proactive and reactive cleanings, must be comprehensively described in the ship's BFMP and documented with supporting evidence, such as inspection reports (ideally with 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 regulation.

In 2025, the IMO issued its *Guidance on In-water Cleaning of Ships' Biofouling*⁴⁵, which provides thorough guidance on in-water cleaning of ships' biofouling to minimise the transfer of invasive aquatic species. It aims to support the 2023 Biofouling Guidelines to promote safe, environmentally responsible cleaning practices. These guidelines also provide comprehensive guidance for the design, operation, testing, approval, and use of in-water cleaning systems (IWCS).

4.4.1. Cleaning permit

In-water reactive cleaning of hulls and niche areas for vessels longer than 24 meters in length is permitted only if a prior request has been submitted to the relevant local authority. When authorised, reactive cleaning must ensure the collection of removed residues, typically consisting of fouling organisms and anti-fouling coatings (AFC).

⁴⁴ Article 4.3.1 of NORMAM-401/DPC

⁴⁵ The 'Guidance on In-water Cleaning of Ships' Biofouling' was adopted in April 2025 through IMO's Resolution MEPC.1/Circ.918

Vessels seeking to perform in-water reactive cleaning in Brazilian waters must submit a written request to the local maritime authority at least 10 (ten) days prior to the planned operation, or as far in advance as possible. Hull cleaning activities, especially those conducted within port areas, must also be requested in advance from the local port authority. It is important to note that in-water cleaning without residue capture is prohibited for vessels identified with light macrofouling (Level 2 and above), unless expressly permitted by the relevant environmental agency⁴⁶.

4.4.2. Supporting documentation

The application form, found in Annexe K of NORMAM-401/DPC, must be submitted along with the following documents:

- International Certificate/AFS Declaration (including the methodology recommended by the manufacturer for biofouling removal, if applicable)
- Biofouling Management Plan (BFMP) and the ship's Biofouling Record Book (BFRB)
- Chronological history of ports visited since the last hull and niche area cleaning, if available.
- Most recent hull/niche area inspection report, accompanied by clear, high-resolution images, where applicable
- A biofouling removal plan detailing the involved team(s), methodologies, equipment, waste capture rate, and the specific location where the cleaning will occur; and
- Any additional relevant information.



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

4.4.3. Prohibitions

In-water cleaning activities, irrespective of whether they involve waste capture, are strictly prohibited in ecologically sensitive areas and conservation units. Such activities are only permissible if expressly authorised by the competent environmental agency or the management body with jurisdiction over the protected unit.

Given the potentially harmful impacts of biofouling and residues from in-water hull cleaning, other domestic laws and regulations addressing water pollution, waste management, and environmental crimes can concurrently apply with these maritime authority standards. **See Section 5.1.4**

4.5. Port-specific biofouling restrictions

Beyond the general provisions outlined in the IMO 2023 Biofouling Guidelines or Chapter 4 of NORMAM/401-DPC, vessels intending to perform in-water cleaning within any Brazilian port or terminal must always verify specific regional requirements or restrictions with the relevant port authority. Local authorities frequently impose additional constraints that may supersede or complement existing national laws and regulations.

⁴⁶ Section 4.4 of NORMAM-401/DPC

For instance, the Port Authority of Santos strictly prohibits routine hull cleaning within its jurisdictional boundaries. Underwater repair works are permitted only in critical situations where the safety of the crew or vessel is demonstrably jeopardised. In exceptional circumstances, the shipowner must not only obtain the necessary permits from both the maritime and port authorities but also secure a specific license from the federal environmental agency, the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA), before licensed contractors can carry out such specialised services.

Furthermore, local port regulations may stipulate fines directly imposed by the port authority for non-compliance with environmental-related rules. These penalties are distinct from and without prejudice to sanctions imposed by other relevant authorities.

4.6. Underwater inspections

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

Shipowners and ship 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 company must be duly accredited by the Directorate of Ports and Coasts (DPC) and obtain the necessary licenses and permits from the local port authority when required.



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

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), NORMAM-222/DPC. Issued by the DPC in 2025, these standards regulate the certification, operation, and safety of commercial diving activities. It specifically outlines the prerequisites for the registration of diving companies, certification of diving systems, and 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 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 for continued validity.
- c) **Diver qualifications:** Prospective divers must be accredited by the DPC as either compressed air divers (MGE) or artificial gas mixture divers (MGP). They must possess a registration and certificate booklet (CIR) issued by the DPC.
- d) **Safety requirements:** The regulation mandates detailed safety protocols for all diving operations, encompassing equipment checks, thorough risk analysis, robust contingency plans, and clear emergency procedures. Hyperbaric chambers are mandatory for specific diving depths and conditions, and strict operational limits are imposed on diving systems concerning depth, temperature, and environmental parameters.

5. Penalties for Non-Compliance

5.1. Breach of regulations

The Navy's Directorate of Ports and Coasts (DPC), through the local maritime authority, may impose administrative sanctions if a vessel fails to maintain its ballast water management system (BWMS), anti-fouling system (AFS), or biofouling management⁴⁷. The National Health Surveillance Agency (ANVISA) may also impose sanctions for violations that jeopardise public health.

	Legal Basis	Fine Range	Other Penalties
Water Pollution	<ul style="list-style-type: none"> Law 9,605/1998 ("Law of Environmental Crimes"), as regulated by Decree 6,514/2008 	BRL 50 to BRL 50 million	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Law 9,966/2000 ("Oil Law"), as regulated by Decree 4,136/2002 	BRL 1,000 to BRL 50 million	<ul style="list-style-type: none"> Rendering of community service Partial or total suspension of activities Temporary closure of work or activity Prohibition from contracting with public authorities
Ballast Water	<ul style="list-style-type: none"> Law 9,605/1998 ("Law of Environmental Crimes"), as regulated by Decree 6,514/2008 	BRL 1,000 to BRL 30 million	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Law 9,966/2000 ("Oil Law"), as regulated by Decree 4,136/2002 	BRL 1,000 to BRL 40 million	<ul style="list-style-type: none"> Rendering of community service Partial or total suspension of activities Temporary closure of work or activity Prohibition from contracting with public bodies
	<ul style="list-style-type: none"> Law 6,437/1977 (Law of Violations to Federal Sanitary Regulations) 	BRL 2,000 to BRL 1.5 million	<ul style="list-style-type: none"> Warning Interdiction Cancellation of free pratique Quarantine
AFS	<ul style="list-style-type: none"> Law 9,605/1998 ("Law of Environmental Crimes"), as regulated by Decree 6,514/2008 	BRL 500 to BRL 2 million	<ul style="list-style-type: none"> 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
Biofouling	<ul style="list-style-type: none"> Law 9,605/1998 ("Law of Environmental Crimes"), as regulated by Decree 6,514/2008 	BRL 500 to BRL 50 million	<ul style="list-style-type: none"> 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

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

⁴⁷ 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**

5.1.1. Violation of BWM standards

Compliance with the Ballast Water Convention (BWC) 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). Authorities 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 (oil/oily mixtures, or categories of harmful or hazardous substances).

Fines range from BRL 1,000 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 economic standing. Recidivism (a new environmental infraction 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 levy other punitive or disciplinary penalties, including warnings, ship detention, or prohibition on entering or departing from Brazilian ports. It is noted that any fines imposed are without prejudice to sanctions by other authorities for the recovery or compensation for environmental damages.

5.1.2. Violation of BWM health regulations

While the regulations enforced by the maritime authority are focused on preventing pollution and environmental degradation, the port health regulations pertain to sanitary controls aimed at preventing 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 international health documents, namely the Maritime Declaration of Health, Ship Sanitation Control Exemption Certificates/Ship Sanitation Control Certificates, as well as the Ballast Water Reporting Forms, among other documents. The port health authority may also condition the granting of free pratique on the conduct 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 systems (BWMS) or the unauthorised discharge of untreated or unexchanged ballast water and sediments, as this practice is strictly prohibited in Brazilian waters. Such infractions may incur penalties, imposed either alternatively or cumulatively, and include warnings, fines, interdictions or quarantine measures, as well as interventions necessary to rectify the deficiencies identified by the port health inspectors.

The severity of the violation determines sanitary fines imposed by the port health authority, 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 violation 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 to decisions regarding penalties, including fines⁴⁸.

While an administrative appeal is pending, compliance with existing obligations or health measures mandated by the health authority remains enforceable.

5.1.3. Violation of AFS standards

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

Violations of NORMAM-401/DPC's Chapter 3 requirements are prohibited. Administrative procedures may be initiated by the maritime authority, which may warn, detain, or prohibit the vessel from accessing a port or terminal. The use of harmful AFS causing severe or irreversible damage constitutes an infraction.

Fines are imposed based on the seriousness of the infraction, consistent with the AFS regulations and are punished by a fine, ranging from a minimum of BRL 500 to a maximum of BRL 2 million. These are based on the asset harmed, the offender's compliance history, and their economic situation. If the offender commits two or more infractions simultaneously, the penalties will be applied cumulatively, while repeat offences within five years result in tripled fines for the same infraction or doubled for a different infraction.

5.1.4. Violation of biofouling standards

The permit application procedure for in-water reactive ship cleaning commenced with the publication of the revised regulation in the Official Gazette on 17 June 2025. Initially, penalties for non-compliance with the new Chapter 4 of NORMAM-401/DPC were originally scheduled for 1 February 2026, but deferred to 10 June 2026⁴⁹. Until that date, port and river captaincies will assume an advisory role. They will concentrate on raising awareness and providing technical support to stakeholders to assist with their adaptation to the new operational requirements.

It is anticipated that the local maritime authority will adopt a similar approach to compliance checks for ballast water management and harmful anti-fouling systems (AFS), which involves 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.

⁴⁸ Articles 12 to 28 of Law 6,437/1977, as amended, which defines violations of federal health legislation and establishes the respect sanctions

⁴⁹ 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

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

In line with violations of other maritime authority standards, the new regulation stipulates that fines breaching biofouling requirements will be determined based on the severity of the offence, the offender's compliance history, and their financial circumstances, with fines for transporting and releasing substances harmful to the environment reaching up to BRL 2 million. If the unauthorised release poses a risk to human health, results in the death of animals, or significantly harms biodiversity, these fines can escalate to BRL 50 million, in addition to potential criminal and civil sanctions⁵⁰.

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

⁵⁰ 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

6. Administrative Proceedings

6.1. 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 framework⁵¹. 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.

6.2. 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 system⁵². **Table 5**

6.2.1. 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.

6.2.2. 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 outlining the environmental violation and its legal context⁵³. 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.

6.2.3. 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.

6.2.4. 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) days⁵⁴.

⁵¹ 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

⁵² Article 70 of Law 9,605/1998

⁵³ 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

⁵⁴ Article 70 of Law 9,605/1998; Articles 1.4.2, 2.6.4, 3.3.6 & 3.3.8 of NORMAM-401/DPC

6.2.5. 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 first instance 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 DPC⁵⁵, which is required to address the administrative appeal within 30 (thirty) days of filing⁵⁶.

6.2.6. Penalty assessment

In cases of multiple violations, cumulative penalties will be imposed. In preparing the notice of infraction, 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 civil and criminal liabilities⁵⁷.

Step	Description	Deadline
Notice of Infraction	<ul style="list-style-type: none"> Issued by the relevant authority to record the administrative breach and notify the offender to produce a defence. 	<ul style="list-style-type: none"> No specific deadline for issuance.
Term for defence	<ul style="list-style-type: none"> Offender must submit a written defence challenging the Notice of Infraction 	<ul style="list-style-type: none"> 20 consecutive days from receipt of the Notice.
Security	<ul style="list-style-type: none"> No bond or security is required for lodging a defence or appeal. Enforcement of penalties is suspended until a final decision is reached. 	<ul style="list-style-type: none"> Not applicable.
Term for hearing	<ul style="list-style-type: none"> The maritime authority adjudicates the notice of infraction after receiving the defence or after the defence deadline expires. 	<ul style="list-style-type: none"> 30 days (or 60 days for pollution-related cases).
Administrative appeal	<ul style="list-style-type: none"> The offender may file an appeal to the Directorate of Ports and Coasts (DPC) if dissatisfied with the decision. 	<ul style="list-style-type: none"> 20 days from receipt of the decision.
Reconsideration period	<ul style="list-style-type: none"> Authority that rendered the decision may reconsider the appeal. 	<ul style="list-style-type: none"> 5 days from receipt of the appeal.
Decision on appeal	<ul style="list-style-type: none"> DPC must address the administrative appeal. 	<ul style="list-style-type: none"> 30 days from filing the appeal.
Penalty assessment	<ul style="list-style-type: none"> Penalties are determined based on the severity of the infraction, compliance history, and financial circumstances. 	<ul style="list-style-type: none"> No specific deadline for assessment (subject to a 5-year time bar)
Deadline for fine payment	<ul style="list-style-type: none"> Offender must pay fines after receiving formal notification of the final decision 	<ul style="list-style-type: none"> 5 days from formal notification.

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

⁵⁵ 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

⁵⁶ 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

⁵⁷ Article 70 of Law 9,605/1998

6.2.7. 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 of formal notification of the authority's final decision⁵⁸. 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 they are settled⁵⁹.

6.3. Exclusion of liability

6.3.1. 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.

6.3.2. 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.

6.3.3. 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 of compensation paid when the fault of a third party is determined to be the cause of the damage⁶⁰.

6.4. Limitation periods

6.4.1. 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 law⁶¹. 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.

6.4.2. Time bar for environmental claims

Generally, a three-year time bar applies for the reparation of damage⁶², 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 for 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 period⁶³.

⁵⁸ Article 71 of Law 9,605/1998 & Article 126 of Decree 6,514/2008

⁵⁹ Articles 2.6.7, 3.3.11 & 4.5.6 of NORMAM-401/DPC

⁶⁰ Articles 188 & 930 of the Brazilian Civil Code

⁶¹ Article 21 of Decree 6,514/2008

⁶² Article 206 of the Brazilian Civil Code

⁶³ Federal Supreme Court's plenary decision with binding effect on the Extraordinary Appeal (RE) 654.833/AC dated 20/04/2020

7. Key Takeaways

7.1. General recommendations

This section condenses critical information and actionable advice for ship operators and masters. Designed for quick reference, these takeaways highlight essential compliance requirements and strategic considerations for navigating Brazil's intricate maritime regulatory landscape.

7.2. Regulatory compliance

- ✓ **NORMAM-401/DPC (2025 Edition):** This comprehensive standard is the core Brazilian maritime norm for ballast water, AFS, and biofouling management, integrating both international and national requirements and guidelines. This standard renders the otherwise voluntary IMO 2023 Biofouling Guidelines a mandatory standard in Brazil for ships over 24 metres in length, with specific exceptions and exemptions.
- ✓ **ANVISA's ballast water controls:** Are distinct from, yet complementary to, environmental and maritime regulations and conventions, focusing on avoiding the introduction of pathogens into national waters and risk to public health.
- ✓ **Port-specific requirements and restrictions:** Local port or maritime authorities often issue specific regional regulations concerning ballast water and biofouling reporting requirements, as well as permits for underwater inspections and in-water cleaning. Always verify specific local regulations with the shipping agent, as they can supersede general provisions.
- ✓ **Regular review of regulations:** It is essential to regularly monitor local developments as Brazilian laws and regulations are dynamic and subject to constant changes.

7.3. Overall preparedness

- ✓ **Proactive planning:** Initiate compliance assessment and planning well before port arrival to avoid delays and potential penalties.
- ✓ **Develop and implement ship-specific management plans:** Develop, implement, and continuously update all required ship-specific environmental-related management plans (BWMP, BFMP, etc.) well in advance.
- ✓ **Comprehensive and accurate documentation:** Maintain meticulous, accurate, and readily accessible documentation; it is the primary evidence of compliance with both maritime and port health regulations.
- ✓ **Verify service providers:** Thoroughly vet all local service providers (e.g., diving companies, waste handlers) by checking their DPC accreditation, licenses, and credentials to ensure full compliance through the local agent.

7.4. On ballast water

- ✓ **Do not discharge untreated water or sediments:** Untreated or unexchanged ballast water or other shipboard sediments or residues must not be discharged in Brazilian waters. Utilise designated reception facilities and carefully record all transfers and operations.
- ✓ **D-2 Standard is the norm:** The D-2 Performance Standard (BWMS treatment) is generally mandatory for international voyages to Brazil since September 2024, unless explicitly covered by a CISEN exemption.
- ✓ **Ballast water reporting is fundamental:** Ballast water reporting is crucial not only for maritime and port authorities but also for ANVISA, which requires this information as a condition for granting free pratique.
- ✓ **BDM is D-1 Standard equivalent:** If using the Brazilian Dilution Method (BDM), it must meet the same rigorous requirements as the D-1 Standard, including 95% volumetric exchange and specific offshore location criteria.

7.5. On Anti-fouling systems

- ✓ **Monitor the AFS condition:** Continuously monitor the AFS condition to ensure effectiveness and compliance. Any modifications or replacements to the AFS necessitate updated documentation and certification.
- ✓ **Ensure no AFS banned substances:** Strictly ensure your AFS does not contain banned substances, such as organotin compounds or cybutrin; violations carry severe penalties.

7.6. On biofouling management

- ✓ **Biofouling level Matters:** For vessels over 24 metres, ensure biofouling is Level 1 or less before entering Brazilian waters or transiting between biogeographic regions. Proactively plan for cleaning if higher levels are detected, always checking local requirements.
- ✓ **In-water cleaning needs a permit:** Reactive in-water cleaning, particularly for Level 2+ biofouling, requires a permit and typically mandates waste capture. Never proceed without prior authorisation.
- ✓ **Local port rules apply:** Always verify port-specific biofouling restrictions and underwater service requirements with local authorities via your agent, and rigorously vet local contractors.

7.7. On penalties & administrative procedures

- ✓ **Understand overlapping jurisdiction:** Multiple authorities (DPC, ANVISA, IBAMA, environmental agencies, public prosecutors, etc.) have overlapping jurisdictions to impose sanctions for environmental offences.
- ✓ **Respond to infraction notices promptly:** Respond to all infraction notices promptly. Strictly adhere to deadlines for submitting defences and appeals to preserve the right to challenge penalties administratively.
- ✓ **Fines are significant:** Fines are substantial, ranging from minor to extremely high (up to BRL 50 million), with recidivism leading to significantly escalated penalties.
- ✓ **Environmental damage claims are Perpetual:** Civil claims for redress of environmental damage have no limitation period in Brazil, meaning liability can extend indefinitely.

8. Conclusion

Effective management of ballast water, harmful anti-fouling systems, and biofouling is crucial for protecting marine ecosystems, preventing the spread of invasive aquatic species (IAS), and safeguarding public health. Brazil's regulatory framework, as outlined in NORMAM-401/DPC, aligns with international conventions such as the IMO's 2001 AFS Convention, the 2004 BWM Convention, and the 2023 Biofouling Guidelines. Notably, Brazil has made the otherwise voluntary IMO 2023 Biofouling Guidelines mandatory for vessels exceeding 24 meters in length, with specific exemptions and exceptions.

This guide has provided a comprehensive, yet practical overview of key requirements, procedures, and penalties associated with untreated ballast water, AFS waste, and biofouling management in Brazilian waters. It highlights the importance of maintaining rigorous ship-specific management plans, such as the Ballast Water Management Plan (BWMP), Biofouling Management Plan (BFMP) and Biofouling Record Book (BFRB), along with accurate logs and records to ensure compliance and avoid penalties.

Ship operators and masters are encouraged to adopt proactive measures, including regular inspections, maintenance, and adherence to local and international regulations. Collaboration with maritime authorities, port health agencies, and environmental regulators is essential for smooth operations and compliance with evolving requirements.

As Brazil continues to refine its standards, staying informed about regulatory updates is vital. PROINDE remains committed to supporting the maritime community in navigating these complex regulations. We invite feedback to improve future editions of this guide and encourage readers to subscribe to our newsletters for regular updates on maritime rules and best practices.

Please refer to our [disclaimer](#).

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