



Ballast Water Management System



# Backgrounder



## About us

Ecochlor, Inc.® was founded in 2001 to provide simple, reliable, cost effective, easy to use ballast water management systems (BWMSs) for the maritime industry.

In 2004, the company installed its first system on Atlantic Container Line's *Atlantic Compass*. Two years later, a second system was installed on the *Moku Pahu* – a U.S. flag Jones Act bulk carrier. With ballast operations in California, this vessel encountered some of the strictest regulations in the world. For 13 years this ship ran ballast operations using the original installed system until her last voyage in January 2019.

As of January 2021, Ecochlor has approximately 325 ships in its order book with over 240 vessels currently running our System worldwide. Our customers include some of the largest and most respected shipowners in the world — Anglo Eastern Ship Management, Alaska Tankers, Bahri Ship Management, Capital Ship Management, Doun Kisen Co., Ltd, Euronav Ship Management, Fuyo Kaiun Co., Idemitsu Tanker Co., JX Ocean Co., Liberty Marine, Maran Dry Management Inc and Maran Tankers, Minerva Marine, Maersk Shipping, SCF Group, Seacor, and Scorpio Tankers – to name a few.

Today, drawing on 20 years of experience in the maritime market, Ecochlor is developing and working with partners to bring new products to the market that are focused on safety and environmental technologies.

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**Ecochlor's attainment of global regulatory type approvals highlights our continued commitment to test the efficacy of the system to the highest standards available over a timespan of almost two decades.**

Current Type Approvals:

- IMO BWMS Code (2020) Type Approval and G9 Final Approval (2010)
- USCG Type Approval (2017)

Class Approvals include:

- ABS, BV, LR, RMRS, DNV GL, KR

Flag State Approvals include:

- IMO Cyprus, IMO Hellenic, IMO Norwegian
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## Powerful Technology

The Ecochlor BWMS uses a two-step process to treat ballast water; filtration followed by injection of chlorine dioxide (ClO<sub>2</sub>) into the ballast lines.

This treatment process offers a number of advantages over other treatment technologies:

- It is completely effective in all water types and conditions without the need for crew to adjust the operating parameters
- It does not require treatment prior to discharge and there is no need for neutralization
- It does not use TRO sensors which can interrupt the ballasting / de-ballasting operations
- It has very low energy use
- It can treat flow rates up to 16,200 m<sup>3</sup>/hr.

This allows for a consistent, easy-to-use system for the crew with the certainty of its effectiveness regardless of water quality.

## Reliability

Reliability comes down to the choices our engineers make to ensure the BWMS will hold up to Ecochlor's strict durability and endurance standards.

The ability of BWMSs to operate reliably over the lifetime of the vessel is not something that happens by accident. It's no secret that minimizing equipment failure and maximizing long-life means using high quality components in the build and simplifying the system operation.

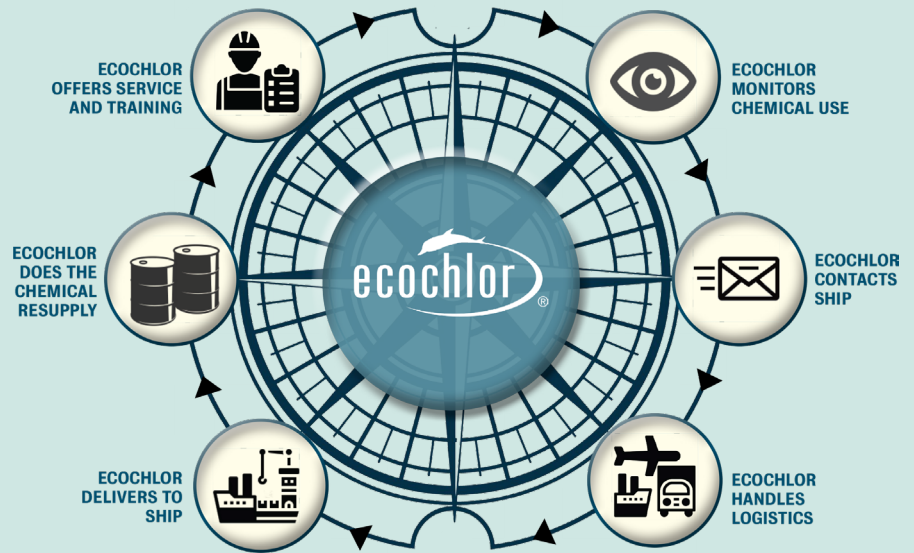
The Ecochlor Three Pillars of Reliability:

- Powerful treatment technology along with a simple to use system
- High-quality construction
- Strong technical support



**OUR MISSION** is to end the wide-spread environmental damage to our coastal ecosystems. Our collaborations with innovative maritime business solutions providers are intended to deliver enhanced economic performance by providing environmentally sound products and services to the maritime industry.

## ECOCHLOR CHEMICAL RESUPPLY & SERVICE



Ecochlor goes beyond other manufacturers by offering oversight of our BWMS using real-time data analysis for each ballast operation and twice a year ship visits.

### Fully Supported

Chemical resupply is handled by the Ecochlor Chemical Resupply Team so the crew can focus on their on board tasks and terminal operations.

Chemical resupply is performed approximately two (2) times annually (dependent upon the number of ballasting operations), which allows for Ecochlor technicians to attend the vessel regularly and identify maintenance requirements early.

Through the company's Service and Resupply Agreement, Ecochlor's Service Team will resupply chemicals approximately every six months or as needed. The entire process is managed by our in-house team of trained experts – from chemical monitoring to shipboard delivery.

Ecochlor's current level of reliable operation at sea is 98%! (January 2021)

### Accountable

Ecochlor is part of the team in support of the ship's crew, wherever they are in the world.

Our BWMS must not only meet and exceed environmental regulatory standards, it must do so reliably so that there is no interruption to vessel operations for our customers. At Ecochlor, we have undertaken a commitment to serving our clients well beyond the BWMS industry's expectations; we stand fast in our efforts to provide the very highest standards in support of our clients' operations.

### Contact Information:

Kathie Clark  
Director of Corporate Communications  
kathie.clark@ecochlor.com  
+1. 978.298.1463 X703