

INTERNATIONAL ANTI-FOULING SYSTEM CERTIFICATE

(This certificate shall be supplemented by a Record of Anti-fouling Systems)

*Issued under the***International Convention on the Control of Harmful Anti-Fouling Systems on Ships***Under the authority of the Government of India***by Indian Register of Shipping**

When a certificate has been previously issued, this certificate replaces the certificate dated -

*Particulars of Ship*Name of ship: **OCEAN TURQUOISE**Distinctive number or letters: **4316/AWPA**Port Of Registry: **MUMBAI**Gross Tonnage: **4335**IMO Number: **9686948**

An anti-fouling system controlled under Annex 1 has not been applied during or after construction of this ship

☒An anti-fouling system controlled under Annex 1 has been applied on this ship previously, but has been removed by *(insert name of the facility)* - on (date) -☐An anti-fouling system controlled under Annex 1 has been applied on this ship previously, but has been covered with a sealer coat applied by *(insert name of the facility)* - on (date) -☐An anti-fouling system controlled under Annex 1 was applied on this ship prior to (date)¹ - but must be removed or covered with a sealer coat prior to (date)² -☐**THIS IS TO CERTIFY THAT:**

- 1 the ship has been surveyed in accordance with regulation 1 of Annex 4 to the Convention ; and
- 2 the survey shows that the anti-fouling system on the ship complies with the applicable requirements of Annex 1 to the Convention.

Completion date of the survey on which this certificate is based: **23/07/2013** (dd/mm/yyyy)Issued at **Mumbai** on **01/04/2016** (dd/mm/yyyy)

A handwritten signature in blue ink, reading 'Tapan Kumar Sahu'.

[Authorized Signatory]
Indian Register of Shipping, Mumbai



- 1 Date of entry into force of the control measure.
- 2 Date of expiration of any implementation period specified in article 4(2) or Annex 1.



Indian Register of Shipping

RECORD OF ANTI-FOULING SYSTEMS

This Record shall be permanently attached to the International Anti-Fouling System Certificate

Particulars of ship

Name of ship **OCEAN TURQUOISE**
 Distinctive number or letters **4316**
 IMO Number **9686948**

Details of anti-fouling system(s) applied

Type(s) of anti-fouling system(s) used **TBT-FREE**

Date(s) of application of anti-fouling system(s) **23 JULY 2013**

Name(s) of company(ies) and facility(ies)/location(s) where applied **POET (CHINA) SHIP BUILDING & ENGINEERING PTE LTD, JINJIANG, P.R.CHINA**

Name(s) of anti-fouling system manufacturer(s) **PPG MARINE & PROTECTIVE COATINGS**

Name(s) and colour(s) of anti-fouling system(s) **SIGMA ECOFLEET 290, DARK BROWN AND RED BROWN**

Active ingredient(s) and their Chemical Abstract Service Registry Number(s) (CAS number(s))

COPPER (I) OXIDE (CAS NO:1317-39-1)

N-(3,4-DICHLOROPHENYL)-N, N-DIMETHYL-UREA (CAS NO: 330-54-1)

Type(s) of sealer coat, if applicable -

Name(s) and colour(s) of sealer coat applied, if applicable-

Date of application of sealer coat -

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at **Mumbai** the **01st** day of **April 2016**



Official Seal

Hemant Kumar Joshi

(Surveyor to Indian Register of Shipping)

ENDORSEMENT OF THE RECORDS¹

THIS IS TO CERTIFY that a survey required in accordance with regulation 1(1)(b) of Annex 4 to the Convention found that the ship was in compliance with the Convention.

Details of anti-fouling system(s) applied

Type(s) of anti-fouling system(s) used **TBT-Free Anti-Fouling System**

Date(s) of application of anti-fouling system(s) **23/11/2018**

Name of company(ies) and facility(ies)/location(s) where applied **Pax Ocean shipyard, Singapore**

Name(s) of anti-fouling system(s) manufacturer(s) **PPG Coatings, Indonesia**

Name(s) and colour(s) of anti-fouling system(s) **Sigma Ecofleet 290 S, 249482 Brown and 249481 Redbrown**

Active ingredient(s) and their Chemical Abstract Service Registry Number(s) (CAS number(s)) **Dicopper oxide CAS no 1317-39-1, Zinc Ethylene Bis-dithiocarbamate CAS no 12122-67-7**

Type(s) of sealer coat, if applicable **Not applicable**

Name(s) and colour(s) of sealer coat applied, if applicable **Not applicable**

Date of application of sealer coat **Not applicable**

Signed: **G. Natarajan***(Surveyor to Indian Register of Shipping)*Place: **Singapore**Date²: **21/02/2019****Official Seal**

1. This page of the Record shall be reproduced and added to the Record as considered necessary by the Administration.
2. Date of completion of the survey on which this endorsement is made.



PPGASIAN PAINTS Pvt Ltd
Unit no 1, 4th floor, The Centrum
Phoenix Market city Centrum,
Plot 401, L.B.S. Marg, Kurla West, Opp.
Naaz Hotel, Mumbai, Maharashtra 400070
Office: +91 22 3056 8824 |
Fax: +91 22 2652 8044 |
E-mail : marine.cs1@ppgasianpaints.com

November, 2018

To whomsoever it may concern

This is to certify that the antifouling paint i.e. Sigma Ecofleet 290 S applied on the underwater area of MV Ocean Turquoise at Pax Ocean Dry Dock, Singapore during the month of November 2018 has an antifouling expected service life of 60 months.

Thanking you,

Yours sincerely,

For PPGASIAN PAINTS Pvt Ltd.

Suhas Mhaprolkar

Technical Manager - Marine





CERTIFICATE

TBT-Free Antifouling

PPG Protective & Marine Coatings
hereby declares that **SIGMA ECOFLEET 290 S**
antifouling coating was applied on the underwater area of:

MV OCEAN TURQUOISE - IMO No. **9686948**

of **Samson Maritime Ltd**

during **NOVEMBER, 2018** at **Pax Ocean shipyard, in Singapore, Singapore.**

SIGMA ECOFLEET 290 S is a TBT-free antifouling coating that complies with the terms of the IMO Convention on the Control of Harmful Antifouling Systems on Ships of 2001 (AFS/CONF/26).

SIGMA ECOFLEET 290 S, applied in the colour(s):

☒ Brown / ☒ Red-brown / ☐ Other:

is a one component, high performance TBT free self-polishing antifouling coating, containing the following active ingredients:

- | | |
|-------------------------------------|--------------------|
| ▪ Dicooper oxide | CAS no: 1317-39-1 |
| ▪ Zinc Ethylene Bis-dithiocarbamate | CAS no: 12122-67-7 |

The antifouling system was applied directly over:
a high performance epoxy anticorrosive system
supplied by PPG Protective-Marine Coatings

PPG Protective & Marine Coatings cannot be held liable for any consequences arising out of or in connection with the information provided in this certificate.

PPG Protective & Marine Coatings

Jakarta, Indonesia

Date: 20/11/2018



**PPG Protective &
Marine Coatings**

Bringing innovation to the surface™



Certificate No: MNDE/2017/8255

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Recognised TBT-Free Anti-Fouling System

In compliance with the IMO International Convention on the Control of Harmful Anti-fouling Systems on Ships

This certificate is issued to the company named below. The anti-fouling coating system is recognised to be compliant with the IMO International Convention on the Control of Harmful Anti-fouling Systems on Ships adopted in October 2001. This recognition does not cover other properties, such as anti-fouling performance, service life, safety or toxicity etc.


The recognition is subject to Lloyd's Register being informed of any changes in and modifications to the product's formulation or specification. Lloyd's Register reserves right to withdraw or re-issue this certificate upon any future amendments of the IMO Convention.

Manufacturer: PPG Coatings, Indonesia
Kawasan Industri Pulogadung
Jl. Rawagelam III No.1
Jakarta 13930
Indonesia

Product name: SIGMA ECOFLEET 290 S

Product colours: 249482 Brown
249481 Redbrown

Date of expiry: 1 November 2020
Date of issue: 1 November 2017


Stuart Downie
Lead Specialist to Lloyd's Register EMEA
A member of the Lloyd's Register group



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