DNV·GL

Certificate No:
TAK000012C

TYPE APPROVAL CERTIFICATE

This is to certify:

That the TBT-Free Anti-Fouling Systems

with type designation(s)
Hempel's Antifouling Globic SAP 819EK

Issued to
Hempel A/S
Kgs. Lyngby Hovedstaden, Denmark

is found to comply with
DNV GL class programme DNVGL-CP-0110 – Type approval – Anti-fouling systems

Application :

Organotin-free chemically hydrolysing SPC antifouling.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at **Høvik** on **2017-12-15**
This Certificate is valid until **2022-12-14**.
DNV GL local station: **Copenhagen**

Approval Engineer: **Stefan Marion**

for **DNV GL**

Martin Strande
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Product description

Organotin-free chemically hydrolysing SPC antifouling; Hempel's Antifouling Gobic SAP 819EK

Colours:
The product may be available in various colurs. Please contact the local Hempel representative for details.

Active ingredients:

Cuprous oxide	CAS No. 1317-39-1
Copper pyrithione	CAS NO. 14915-37-8

Manufactured by

Hempel (Portugal) Lda.; Vale de Catadores, 2954-002 Palmela, Portugal

DNV GL local office: Lisbon

Responsibility

The Company (stated on the front page of this Certificate) takes the responsibility that both design and production are in compliance with Rules, Standards and/or Regulations listed on page 1 of this certificate.

Application/Limitation

The issuance of this certificate is solely connected to the control of the Anti-Fouling System, AFS, with regard to compliance with the International Convention on the Control of Harmful Anti-Fouling Systems on Ships.

Type Approval documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**, with the following test result, ref.Test Cerificates fom PRA (UK) of 2017-11-06:

- Hempel's Antifouling Globic SAP 819EK-51110: 0.023 % tin

Marking of product

Product shall be marked with *manufacturer's name*; *place of production* and *type designation*.

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV GL Type Approval Certificate.

Periodical assessment

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

Periodical Assessment to be performed after 2 and 3.5 years (Certificate Retention) and at renewal after 5 years (Certificate Renewal).

The main elements of the Periodical Assessment are to:
- Ensure that **Type Approval documentation** is available.

- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Approval documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and DNV GL Type Approval Certificate.

END OF CERTIFICATE