

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
30 June 2011 (30.06.2011)

(10) International Publication Number
WO 2011/076856 A1

PCT

- (51) **International Patent Classification:**
C09D 5/16 (2006.01) **C09D 183/04** (2006.01)
C09D 7/12 (2006.01)
- (21) **International Application Number:**
PCT/EP2010/070509
- (22) **International Filing Date:**
22 December 2010 (22.12.2010)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
09180360.1 22 December 2009 (22.12.2009) EP
- (71) **Applicant** (for all designated States except US):
HEMPEL A/S [DK/DK]; Lundtoftevej 150, DK-2800
Lyngby (DK).
- (72) **Inventors; and**
- (75) **Inventors/Applicants** (for US only): **THORLAKSEN,**
Peter Christian Weinrich [DK/DK]; Druemarken 7,
DK-2680 Solrød Strand (DK). **BLOM, Anders**
[DK/DK]; Vester Bomvej 15, DK-3060 Espergærde
(DK). **BORK, Ulrik** [DK/DK]; Lillevangsvej 114 H,
DK-3480 Fredensborg (DK).
- (74) **Agents:** **THORSEN, Jesper** et al.; Inspicos A/S, P.O.
Box 45, Kogle Allé 2, DK-2970 Hørsholm (DK).
- (81) **Designated States** (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD,
SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) **Designated States** (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG,
ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ,
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU,
LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).
- Declarations under Rule 4.17:**
— of inventorship (Rule 4.17(iv))
- Published:**
— with international search report (Art. 21(3))

(54) **Title:** NOVEL FOULING CONTROL COATING COMPOSITIONS

(57) **Abstract:** The present application discloses a fouling control coating composition comprising a polysiloxane-based binder system, 0.01-20 % by dry weight of one or more hydrophilic-modified polysiloxanes, and one or more biocides. The hydrophilic-modified polysiloxane may be a poly(oxyalkylene)-modified polysiloxane, e.g. a polysiloxane having grafted thereto poly(oxyalkylene) chains and/or having incorporated in the backbone thereof poly(oxyalkylene) chains. The poly(oxyalkylene) may e.g. be selected from polyoxyethylene, polyoxypropylene and poly(oxyethylene-co-oxypropylene) (polyethylene glycols/polypropylene glycols). The application further discloses a marine structure comprising on at least a part of the outer surface thereof an outermost coating prepared from the coating composition. Moreover, the application discloses the use of the combination of non-reactive hydrophilic-modified polysiloxanes and biocides, wherein the weight ratio between the hydrophilic-modified polysiloxanes and the biocides is in the range 1 : 0.2 to 1 : 6, for improving the antifouling properties of a polysiloxane based coating composition.



WO 2011/076856 A1