

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 July 2009 (09.07.2009)

PCT

(10) International Publication Number
WO 2009/085325 A1

(51) International Patent Classification:
C09D 5/16 (2006.01)

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(21) International Application Number:
PCT/US2008/050029

(22) International Filing Date: 2 January 2008 (02.01.2008)

(25) Filing Language: English

(26) Publication Language: English

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(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, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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Published:

— with international search report

(54) Title: METHOD TO INCREASE THE EFFICIENCY OF POLYMER DRAG REDUCTION FOR MARINE AND INDUSTRIAL APPLICATIONS

(57) Abstract: A method for increasing the efficiency of additive drag reduction by establishing a drag-reducing viscoelastic coating on a surface. The method includes mixing a polymer into a concentrated solution that has approximately the same density as a fluid flowing over the surface, ejecting the mixture/solution into the flowing fluid in a manner such that a coating of polymer, which initially grows thicker with time, is adsorbed onto the surface, and reducing the ejection rate of the first fluid such that the coating of polymer then grows thinner with time. These steps may be repeated so that a desired minimum coating thickness is maintained over an extended period of time. The method reduces the polymer expenditure rate for a given drag reduction. Moreover, the produced viscoelastic coating impedes the attachment and growth of drag-producing natural organisms and may be applied without 'down-time' (e.g., while underway).



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