



(51) International Patent Classification:

C09K 8/60 (2006.01) *C23F 11/14* (2006.01)
C09K 8/72 (2006.01) *C23G 1/08* (2006.01)
C09K 8/528 (2006.01) *C09K 8/54* (2006.01)
C09K 8/86 (2006.01) *C09K 8/74* (2006.01)
C23F 11/04 (2006.01) *C11D 3/33* (2006.01)

(21) International Application Number:

PCT/EP2012/060952

(22) International Filing Date:

11 June 2012 (11.06.2012)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/496,236 13 June 2011 (13.06.2011) US
 11172815.0 6 July 2011 (06.07.2011) EP
 PCT/EP2011/072693
 14 December 2011 (14.12.2011) EP
 PCT/EP2011/072696
 14 December 2011 (14.12.2011) EP
 PCT/EP2011/073042
 16 December 2011 (16.12.2011) EP

(71) Applicant (for all designated States except US): **AKZO NOBEL CHEMICALS INTERNATIONAL B.V.** [NL/NL]; Stationsstraat 77, NL-3811 MH Amersfoort (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **DE WOLF, Cornelia Adriana** [NL/NL]; Kraaiheide 59, NL-6961 PC Eerbeek (NL). **BOUWMAN, Albertus Jacobus Maria** [NL/NL];

Wethouder Nasslaan 51, NL-6923 PL Groessen (NL). **NASR-EL-DIN, Hisham** [CA/US]; 2911 Colton Place, College Station, Texas 77845 (US).

(74) Agent: **DE VRIES, Adriaan Jacobus c.s.**; Akzo Nobel N.V., Legal, IP & Compliance, P.O. Box 9300, NL-6800 SB Arnhem (NL).

(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, QA, RO, RS, RU, RW, 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, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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).

Published:

— with international search report (Art. 21(3))

(54) Title: IMPROVED CORROSION RESISTANCE WHEN USING CHELATING AGENTS IN CHROMIUM-CONTAINING EQUIPMENT

(57) Abstract: The present invention relates to process to reduce the corrosion of equipment containing a chromium-containing alloy in the oil and/or gas industry, comprising a step of contacting the equipment based on a chromium-containing alloy with a solution containing at least 1 wt% on total weight of the solution of glutamic acid N,N-diacetic acid or a salt thereof (GLDA) and/or methylglycine N,N-diacetic acid or a salt thereof (MGDA) having an acidic pH, the use of the above solutions in equipment containing a chromium-containing alloy to reduce corrosion, and to a system containing a piece of equipment used in the oil and/or gas industry made at least partly from chromium-containing alloy in contact with an acidic solution containing at least 1 wt% of glutamic acid N,N-di acetic acid or a salt thereof (GLDA) and/or methylglycine N,N-di acetic acid or a salt thereof (MGDA).

