



(51) International Patent Classification:
B01D 11/04 (2006.01) *C07H 13/02* (2006.01)
C07C 231/24 (2006.01)

(21) International Application Number:
PCT/GB2012/051010

(22) International Filing Date:
9 May 2012 (09.05.2012)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/484,476 10 May 2011 (10.05.2011) US

(71) Applicant (for all designated States except US): **TATE & LYLE TECHNOLOGY LIMITED** [GB/GB]; 1 Kingsway, London WC2B 6AT (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MICINSKI, Edward** [US/US]; 601 Surrey Lane, Martinez, Georgia 30907 (US). **COLEMAN, David** [US/US]; 106 Pineview Circle, Daphne, Alabama 36526 (US). **WILEY, James Edwin** [US/US]; 1052 Wickham Drive, Moraga, California 94556 (US). **DENTEL, David A** [US/SG]; 168 Sakra Place, Jurong Island 627811 (SG). **EILERS, Thomas** [US/SG]; 168 Sakra Place, Jurong Island 627811 (SG).

(74) Agent: **NIEUWENHUY, William**; Marks & Clerk LLP, 90 Long Acre, London WC2E 9RA (GB).

(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: EXTRACTION OF CARBOXYLIC ACIDS WITH TIN COMPOUNDS

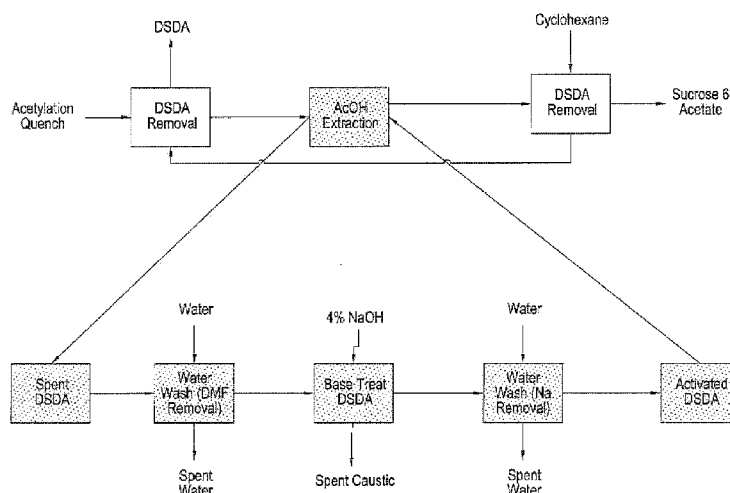


Fig. 1

(57) Abstract: A method of removing a carboxylic acid from a liquid including a tertiary amide solvent includes the steps of: A) forming an extraction medium comprising an acid-extracting tin species and an extraction solvent that is immiscible with the tertiary amide solvent; B) subsequently contacting the liquid including the tertiary amide solvent with said extraction medium, thereby forming a phase including a de-acidified tertiary amide solvent and a phase including the extraction solvent; and C) removing the phase including the extraction solvent, to afford a liquid including the de-acidified tertiary amide solvent; wherein the acid-extracting tin species is selected from the group consisting of tin species obtainable by reaction of a di(hydrocarbyl) tin oxide with less than one equivalent of a carboxylic acid, tin species obtainable by reaction of a 1,3-diacyloxy- 1,1,3,3-tetra-(hydrocarbyl)distannoxane with an aqueous base, and combinations of these.