

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
18 January 2007 (18.01.2007)

PCT

(10) International Publication Number
WO 2007/007891 A3

(51) International Patent Classification:
C07C 51/44 (2006.01)

(21) International Application Number:
PCT/JP2006/314124

(22) International Filing Date: 11 July 2006 (11.07.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2005-205740 14 July 2005 (14.07.2005) JP

(71) Applicant (for all designated States except US): **DAI-CEL CHEMICAL INDUSTRIES, LTD.** [JP/JP]; 1, Teppo-cho, Sakai-ku, Sakai-shi, Osaka 590-8501 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MIURA, Hiroyuki** [JP/JP]; c/o Daicel Chemical Industries, LTD., 1239, Shinzaike, Aboshi-ku, Himeji-shi, Hyogo 671-1283 (JP). **KOJIMA, Hidetaka** [JP/JP]; 2-1111-201, Shiromidai, Himeji-shi, Hyogo 670-0803 (JP).

(74) Agent: **KUWATA, Mitsuo**; Kuwata & Co., 6th Floor, Minato Umeda Building, 3-17, Nishitemma 6-chome, Kita-ku, Osaka-shi, Osaka 530-0047 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, 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, 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, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

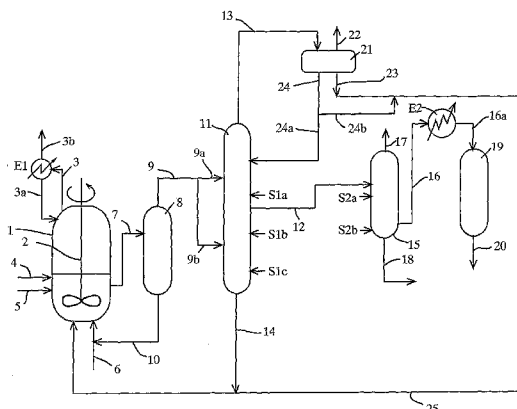
Published:

— with international search report

(88) Date of publication of the international search report:
13 September 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROCESS FOR PRODUCING CARBOXYLIC ACID



(57) Abstract: A process for producing a purified carboxylic acid having "n+1" carbon atoms comprises feeding a carboxylic acid stream containing a carboxylic acid having "n+1" carbon atoms, a hydrogen halide, a lower boiling point (bp) component, a higher by component, and others to a first distillation column; separating a lower by fraction containing part of the lower by component and a higher by fraction containing part of the higher by component in the first column; withdrawing a side stream containing at least the carboxylic acid by side cut from the first column; feeding the side stream to a second distillation column; separating a lower by fraction containing part of the lower by component and a higher by fraction containing part of the higher by component in the second column; and withdrawing a side stream containing the carboxylic acid by side cut from the second column to recover a purified carboxylic acid; and the process further comprises feeding at least one first component (A) selected from the group consisting of an alcohol, corresponding to the carboxylic acid, having "n" carbon atom(s), and an ester of the alcohol with the carboxylic acid to the first column, and if necessary water. Such a process ensures reduction of the concentration of the hydrogen halide in the purified carboxylic acid.

WO 2007/007891 A3