

(51) International Patent Classification:
C07C 29/149 (2006.01)(21) International Application Number:
PCT/US2011/035551(22) International Filing Date:
6 May 2011 (06.05.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/332,696 7 May 2010 (07.05.2010) US
13/094,580 26 April 2011 (26.04.2011) US(71) Applicant (for all designated States except US):
CELANESE INTERNATIONAL CORPORATION
[US/US]; 1601 West LBJ Freeway, Dallas, TX 75234 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **JEVTIC, Radmila** [RS/US]; 7022 Red Coral Drive, Pasadena, TX 77505 (US). **JOHNSTON, Victor, J.** [US/US]; 3234 Pleasant Cove Court, Houston, TX 77059 (US). **PAN, Tianshu** [CN/US]; 4115 Crimson Oak Court, Houston, TX 77059 (US). **SCATES, Mark, O.** [US/US]; 18117 Sandy Cove, Houston, TX 77058 (US). **SHAVER, Ronald, David**[US/US]; 906 Bridge Hollow Court, Houston, TX 77062-2110 (US). **WARNER, R., Jay** [US/US]; 3507 East Pine Brook Way, Houston, TX 77059 (US). **WEINER, Heiko** [DE/US]; 4827 Baywood Drive, Pasadena, TX 77059 (US). **CHAPMAN, Josefina, T.** [US/US]; 15427 Rocky Oak Court, Houston, TX 77059 (US).(74) Agents: **FREDLAKE, Keith** et al.; 7918 Jones Branch, Suite 500, McLean, Virginia 22102 (US).

(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,

[Continued on next page]

(54) Title: ALCOHOL PRODUCTION PROCESS INTEGRATING ACETIC ACID FEED STREAM COMPRISING WATER FROM CARBONYLATION PROCESS

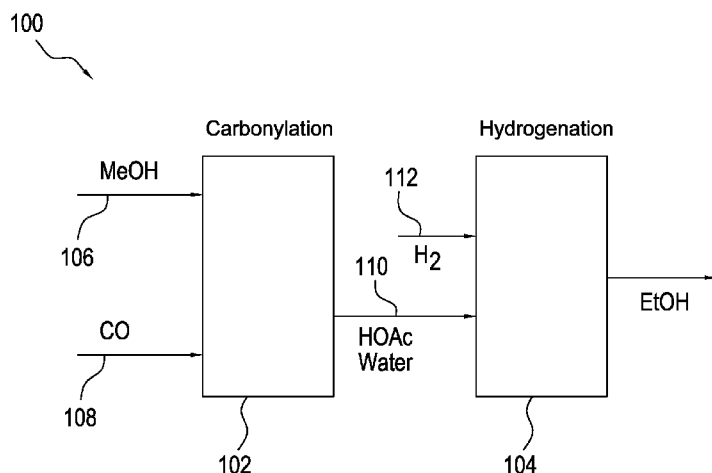


FIG. 1

(57) Abstract: In one embodiment, the invention is to a process for producing ethanol, comprising the step of providing from a distillation column in a carbonylation process a purified acetic acid stream comprising up to 25 wt.% water. The process further comprises the step of hydrogenating acetic acid of the purified acetic acid stream in the presence of a catalyst and under conditions effective to form a crude ethanol product comprising ethanol and water. Ethanol is recovered from the crude ethanol product.



LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, **Published:**

SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,

GW, ML, MR, NE, SN, TD, TG).

— *without international search report and to be republished
upon receipt of that report (Rule 48.2(g))*