

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
31 August 2006 (31.08.2006)

PCT

(10) International Publication Number
WO 2006/091397 A1

(51) International Patent Classification:
C07C 51/12 (2006.01) C07C 53/08 (2006.01)

(21) International Application Number:
PCT/US2006/004772

(22) International Filing Date:
10 February 2006 (10.02.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/067,265 24 February 2005 (24.02.2005) US

(71) Applicant (for all designated States except US):
CELANESE INTERNATIONAL CORPORATION
[US/US]; A Corporation of the State of Delaware, 1601
West Lbj Freeway, Dallas, TX 75234 (US).

(72) Inventor: TORRENCE, G., Paul; 4206 Masters Drive,
League City, TX 77573-5802 (US).

(74) Agents: MULLEN, James, J. et al.; CELANESE LTD.,
IP LEGAL DEPT., IZIP 701, P.o. Box 428, 400 Highway
77 South, Bishop, TX 78343 (US).

(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, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KM, KN, KP, KR, KZ, 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, RU, SC, SD, SE, SG,
SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
UZ, VC, VN, YU, 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).

Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii))

Published:

— with international search report
— before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

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

(54) Title: ACETIC ACID PRODUCTION METHODS INCORPORATING AT LEAST ONE METAL SALT AS A CATALYST
STABILIZER

(57) Abstract: Processes for the production of acetic acid by carbonylation of methanol, and reactive derivatives thereof, in a reaction mixture using a rhodium-based catalyst system with at least one metal salt catalyst stabilizer selected from the group of ruthenium salts, tin salts, and mixtures thereof are provided. The metal salt stabilizers minimize precipitation of the rhodium metal during recovery of the acetic acid product, particularly in flasher units in an acetic acid recovery scheme. Stability of the rhodium metal is achieved even when the acetic acid is produced in low water content reaction mixtures in the presence of an iodide salt co-promoter at a concentration that generated an iodide ion concentration of greater than about 3 wt.% of the reaction mixture. The stabilizing metal salts may be present in the reaction mixtures for the production of acetic acid at molar concentrations of metal to rhodium of about 0.1 :1 to about 20:1. The stabilizing metal salts may be combined with other catalyst stabilizers as well as catalyst promoters.

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