



(51) International Patent Classification:

C07C 7/148 (2006.01) C07C 11/06 (2006.01)
B01J 23/78 (2006.01) C07C 11/18 (2006.01)
C07C 11/167 (2006.01) C07C 15/46 (2006.01)
C07C 11/04 (2006.01)

(21) International Application Number:

PCT/US2011/066434

(22) International Filing Date:

21 December 2011 (21.12.2011)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/459,978 22 December 2010 (22.12.2010) US

(71) Applicant (for all designated States except US): **TPC GROUP LLC** [US/US]; 5151 San Felipe, Suite 800, Houston, TX 77056 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **DUFF, Joseph, G.** [US/US]; 1319 Bayport Lane, League City, TX 77573 (US). **MCFARLAND, Cecil, G.** [US/US]; 1921 Abilene, League City, TX 77573 (US).

(74) Agent: **FERRELL, Michael, W.**; Ferrells, PLLC, P.O. Box 312, Clifton, VA 20124-1706 (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, 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, 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, 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))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

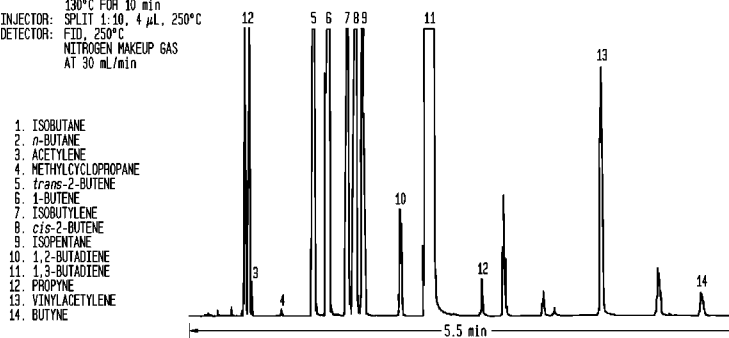
(88) Date of publication of the international search report:

16 August 2012

(54) Title: PROCESS AND CATALYST FOR SELECTIVE REMOVAL OF ACETYLENES FROM GASEOUS STREAMS

CRUDE 1,3-BUTADIENE
COLUMN: GS-ALUMINA
30 m X 0.53 mm I.D.
CARRIER: HELIUM AT 51 cm/sec (6.8 mL/min), MEASURED AT 95°C
55°C FOR 5 min
55-130°C AT 5°/min
130°C FOR 10 min
INJECTOR: SPLIT 1:10, 4 µL, 250°C
DETECTOR: FID, 250°C
NITROGEN MAKEUP GAS
AT 30 mL/min

FIG. 1



(57) Abstract: The present invention discloses a process and catalyst therefore to selectively remove acetylenes from gaseous streams in the vapor phase. The process is particularly suitable for high yield recovery of olefinic hydrocarbons from gaseous streams in refinery processes.