



(51) International Patent Classification:

C10G 51/04 (2006.01) *C10G 11/08* (2006.01)
C10G 11/02 (2006.01)

(21) International Application Number:

PCT/US2009/051823

(22) International Filing Date:

27 July 2009 (27.07.2009)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

12/184,109 31 July 2008 (31.07.2008) US

(71) Applicant (for all designated States except US):
CHEVRON U.S.A. INC. [US/US]; 6001 Bollinger Canyon Road, San Ramon, CA 94583 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HOMMELTOFT, Sven, Ivar** [US/US]; 1708 Milburn Drive, Pleasant Hill, CA 94523 (US). **MILLER, Stephen, J.** [US/US]; 520 45th Avenue, San Francisco, CA 94121 (US). **PRADHAN, Ajit** [IN/US]; 123 Northcreek Circle, Walnut Creek, CA 94598 (US).(74) Agents: **ABERNATHY, Susan, M.** et al.; Chevron Corporation, Law Department, Post Office Box 6006, San Ramon, CA 94583-0806 (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, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, 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))

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

29 April 2010

(54) Title: PROCESS FOR PRODUCING A LOW VOLATILITY GASOLINE BLENDING COMPONENT AND A MIDDLE DISTILLATE

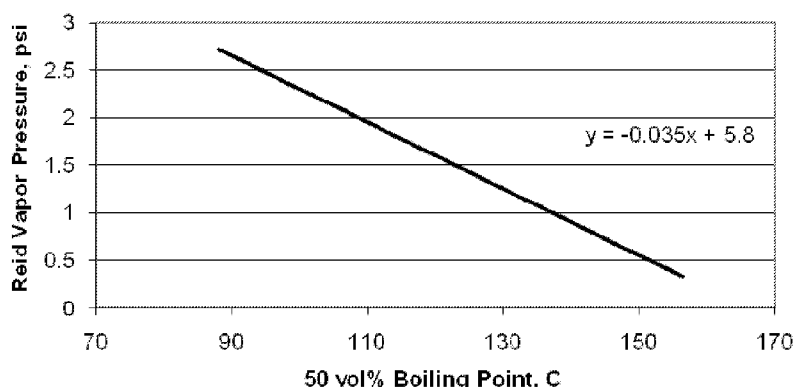


FIGURE 1

(57) Abstract: A process for producing a low volatility gasoline blending component and a middle distillate, comprising alkylating a hydrocarbon stream comprising at least one olefin having from 2 to 6 carbon atoms and at least one paraffin having from 4 to 6 carbon atoms with an ionic liquid catalyst and an unsupported halide containing additive, and separating the alkylate into at least the low volatility gasoline blending component and the middle distillate, wherein the middle distillate is a fuel suitable for use as a jet fuel or jet fuel blending component. Also, a process for producing a gasoline blending component and a middle distillate, comprising adjusting a level of a halide containing additive provided to an ionic liquid alkylation reactor to shift selectivity towards heavier products, and recovering a low volatility gasoline blending component and the middle distillate. Also, processes comprising alkylating isobutane with butene over specific chloroaluminate ionic liquids.