

(43) International Publication Date
8 April 2010 (08.04.2010)(10) International Publication Number
WO 2010/039602 A3

(51) International Patent Classification:

C10M 125/08 (2006.01) C10N 30/04 (2006.01)
C10M 101/00 (2006.01) C10N 30/06 (2006.01)
F02B 3/06 (2006.01) C10N 40/25 (2006.01)
C10N 30/02 (2006.01)

(21) International Application Number:

PCT/US2009/058354

(22) International Filing Date:

25 September 2009 (25.09.2009)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

12/286,377 30 September 2008 (30.09.2008) US

(71) Applicant (for all designated States except US):

CHEVRON ORONITE COMPANY LLC [US/US];
6001 Bollinger Canyon Road, San Ramon, California
94583 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): YAMAGUCHI,
Elaine S. [US/US]; 1741 Wesley Avenue, Hercules, Cali-

fornia 94530 (US). NG, Kam-Sik [US/US]; 17360 Via
Melina, San Lorenzo, California 94580 (US).

(74) Agents: CAROLI, Claude J. et al.; Chevron Corpora-
tion, Law Department, Post Office Box 6006, San Ramon,
California 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,

[Continued on next page]

(54) Title: LUBRICATING OIL COMPOSITION

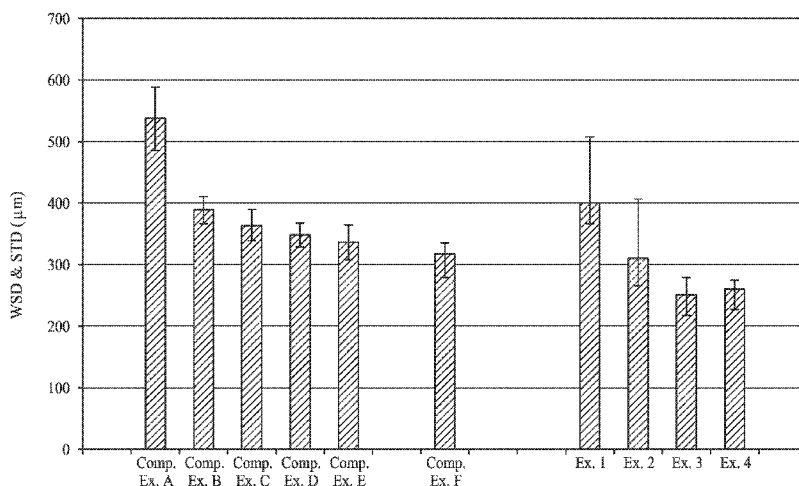
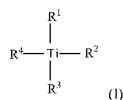


FIG. 1



(57) Abstract: A lubricating oil composition is disclosed which comprises (a) a major amount of an oil of lubricating viscosity; and (b) an oil-soluble titanium compound of Formula I: wherein R^1 , R^2 , R^3 and R^4 are independently a C_1 - C_{20} alkoxy group, and further wherein the lubricating oil composition is free of any zinc dialkyldithiophosphate.



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))

Declarations under Rule 4.17:

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

— 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))

— as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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

8 July 2010