



(51) International Patent Classification:

C10M 133/46 (2006.01) *C10L 10/18* (2006.01)
C10M 133/58 (2006.01) *C10L 1/2383* (2006.01)
C10L 1/188 (2006.01) *C10M 133/56* (2006.01)
C10L 1/222 (2006.01) *C10N 20/04* (2006.01)
C10L 1/224 (2006.01) *C10N 40/25* (2006.01)
C10L 1/232 (2006.01) *C10N 70/00* (2006.01)

(21) International Application Number:

PCT/US2015/033157

(22) International Filing Date:

29 May 2015 (29.05.2015)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/005,059 30 May 2014 (30.05.2014) US

(71) Applicant: **THE LUBRIZOL CORPORATION**
[US/US]; 29400 Lakeland Blvd., Wickliffe, Ohio 44092-2298 (US).

(72) Inventors: **GREENFIELD, Hannah**; P.O. Box 88, Belper, Derby Derbyshire DE56 1QN (GB). **MORETON, David J.**; P.O. Box 88, Belper Derby Derbyshire DE56 1QN (GB). **STEVENSON, Paul R.**; P.O. Box 88, Belper, Derby Derbyshire DE56 1QN (GB). **ARTERS, David C.**; 29400 Lakeland Blvd., Wickliffe, Ohio 44092-2298 (US). **BUSH, James H.**; 29400 Lakeland Blvd., Wickliffe, Ohio 44092-2298 (US).

(74) Agents: **SANS, Iken S.** et al.; The Lubrizol Corporation, Legal Department, MD022B, 29400 Lakeland Blvd., Wickliffe, Ohio 44092-2298 (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, BN, 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, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: HIGH MOLECULAR WEIGHT IMIDE CONTAINING QUATERNARY AMMONIUM SALTS

(57) Abstract: The present technology is related to imide containing quaternary ammonium salts having a hydrocarbyl substituent of number average molecular weight of 1300 to 3000, and the use of such quaternary ammonium salts in fuel compositions or lubricating compositions to improve the water shedding performance of the fuel or lubricant composition.

