

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 March 2003 (27.03.2003)

PCT

(10) International Publication Number
WO 03/025034 A1

(51) International Patent Classification⁷: **C08F 255/00**,
255/02, C08L 51/06, C10M 145/00

(21) International Application Number: PCT/US01/28606

(22) International Filing Date:
14 September 2001 (14.09.2001)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **CROMPTON CORPORATION** [US/US]; 199 Benson Road, Middlebury, CT 06749 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **DUYCK, Karl** [US/US]; 150 Forest Ridge Road, Waterbury, CT 06708 (US). **NALESNIK, Theodore, E.** [US/US]; P.O. Box 6, Hopewell Junction, NY 12533 (US). **TRAN, Uyen, Thanh** [US/US]; 5 Leopold Drive, Sandy Hook, CT 06482 (US).

(74) Agent: **REITENBACH, Daniel**; Crompton Corporation, 199 Benson Road, Middlebury, CT 06749 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

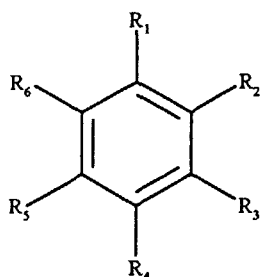
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

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

(54) Title: MULTIFUNCTIONAL VISCOSITY INDEX IMPROVER AND DISPERSANT



(I)

(57) Abstract: A process is disclosed that comprises solution grafting a hydrocarbon polymer prepared from at least C₂ to C₂₈ polymerizable hydrocarbon, said polymer having a number average molecular weight in the range of from about 5,000 to about 500,000, with an ethylenically unsaturated C₃ to C₁₀ carboxylic acid material, using a free radical initiator, in the presence of an aromatic ester oil of the formula (I) wherein R₁, R₂, R₃, R₄, R₅, and R₆ are independently selected from the group consisting of hydrogen, -COOR₇, -COOR₈, -COOR₉, -COOR₁₀, -COOR₁₁, and -COOR₁₂, provided that no more than 5 of R₁, R₂, R₃, R₄, R₅ and R₆ are hydrogen, and R₇, R₈, R₉, R₁₀, R₁₁, and R₁₂ are independently selected from the group consisting of alkyl and alkylesters.



WO 03/025034 A1