

PCTWORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : C10M 149/10, C08F 8/30, 297/04, 287/00	A1	(11) International Publication Number: WO 98/13443 (43) International Publication Date: 2 April 1998 (02.04.98)
(21) International Application Number: PCT/EP97/05238 (22) International Filing Date: 23 September 1997 (23.09.97) (30) Priority Data: 60/026,904 24 September 1996 (24.09.96) US (71) Applicant: SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V. [NL/NL]; Carel van Bylandtlaan 30, NL-2596 HR The Hague (NL). (72) Inventor: SUTHERLAND, Robert, Jude; 16211 Cairngorm Avenue, Houston, TX 77095 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
(54) Title: DISPERSANT VISCOSITY INDEX IMPROVERS (57) Abstract A dispersant viscosity index improver linear diblock copolymer or radial or star block copolymer, wherein the linear diblock copolymer and each arm of the radial or star block copolymer, respectively, has an overall number average molecular weight of 7500 to 250,000 and comprises a block of a conjugated diene having a number average molecular weight of 5000 to 200,000 and a block of a vinyl aromatic hydrocarbon having a number average molecular weight of 2500 to 100,000, the copolymer having a vinyl aromatic hydrocarbon content of 5 to 50 weight percent, wherein 5 to 10 N-vinyl imidazole functional groups per polymer chain have been grafted on to the copolymer, a process for producing and lubricating oil compositions and additive concentrates containing such dispersant viscosity index improvers.		