

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
23 September 2004 (23.09.2004)

PCT

(10) International Publication Number
WO 2004/081107 A1

(51) International Patent Classification⁷: **C08L 23/28**,
77/00

(74) Agent: **NIKAIDO, David, T.**; Rader Fishman & Grauer
PLLC, 1233 20th Street NW, Suite 501, Washington, DC
20036 (US).

(21) International Application Number:
PCT/US2003/006699

(22) International Filing Date: 6 March 2003 (06.03.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicants (*for all designated States except US*):
EXXONMOBIL CHEMICAL PATENTS, INC.
[US/US]; 13501 Katy Freeway, Houston, TX 77079 (US).
THE YOKOHAMA RUBBER CO., LTD. [JP/JP];
36-11, Shimbashi 5-chome, Minato-ku, Tokyo 105-8685
(JP).

(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, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
UZ, VC, VN, YU, ZA, ZM, ZW.

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

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **TSOU, Andy**,
Haishung [US/US]; 3007 Prairie Knoll Court, Houston,
TX 77059 (US). **SOEDA, Yoshihiro** [JP/JP]; c/o The
Yokohama Rubber Co., Ltd., Hiratsuka Factory, 2-1,
Oiwake, Hiratsuka-shi, Kanagawa 254-8601 (JP). **HARA**,
Yuichi [JP/JP]; c/o The Yokohama Rubber Co., Ltd.,
Hiratsuka Factory, 2-1, Oiwake, Hiratsuka-shi, Kanagawa
254-8601 (JP).

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: A METHOD FOR CONTROLLING DISPERSION SIZE OF ELASTOMER IN THERMOPLASTIC ELASTOMER COMPOSITION

(57) Abstract: A method for controlling a dispersion size of an elastomer in a thermoplastic elastomer composition having improved durability and impermeability obtained by melt-mixing (A) a halogenated isobutylene elastomer, (B) polyamide and (C) a dispersion aid, and dynamically vulcanizing the resultant blend to form the dynamically vulcanized polymer blend, wherein the halogenated isobutylene elastomer is dispersed in the polyamide matrix at a volume-average dispersion diameter of less than 2.0 μm .

WO 2004/081107 A1