



(43) International Publication Date
2 July 2015 (02.07.2015)

(10) International Publication Number
WO 2015/100449 A3

(51) International Patent Classification:

B29D 30/06 (2006.01) **B60C 1/00** (2006.01)
C08C 19/25 (2006.01) **C08G 81/02** (2006.01)

(21) International Application Number:

PCT/US2014/072511

(22) International Filing Date:

29 December 2014 (29.12.2014)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/921,153 27 December 2013 (27.12.2013) US

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(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,
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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))*
- *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))*

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

3 September 2015

(54) Title: VULCANIZATES AND TIRE COMPONENTS PREPARED FROM COMPOSITIONS INCLUDING MER-
CAPTO-FUNCTIONAL SILOXANES

(57) Abstract: A vulcanizate prepared by a method comprising introducing an elastomer, a filler, and a mercapto-functional siloxane
to form a masterbatch and introducing a curative to the masterbatch to form a vulcanizable composition.



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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2014/072511

A. CLASSIFICATION OF SUBJECT MATTER

INV. B29D30/06 C08C19/25 B60C1/00 C08G81/02
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B29D C08C C08K B60C C08G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EP0-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE WPI Week 201256 Thomson Scientific, London, GB; AN 2012-K91482 XP002738195, -& JP 2012 153865 A (YOKOHAMA RUBBER CO LTD) 16 August 2012 (2012-08-16) abstract -----	1-3,6,7, 13,14
X	US 5 994 456 A (KLOSOWSKI JEROME MELVIN [US] ET AL) 30 November 1999 (1999-11-30) column 6, line 58 - line 67 column 9, line 59 - line 61 column 10, paragraph 1 - paragraph 3 claims 1-6,9,10-16; examples -----	1,3-6,13



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

8 April 2015

Date of mailing of the international search report

23/07/2015

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2014/072511

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-7(completely); 13, 14(partially)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7(completely); 13, 14(partially)

Vulcanizate prepared from components a. (masterbatch from elastomer, filler, mercapto-siloxane) and b.(curative), use of mercapto-siloxane in tire tread.

2. claims: 8-12, 17, 18(completely); 13, 14(partially)

Vulcanizable composition comprising a. - d., use of b. in tire tread.

3. claims: 15, 16

Graft copolymer and method for preparing a tire.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2014/072511

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2012153865 A	16-08-2012	JP 5614308 B2	29-10-2014
		JP 2012153865 A	16-08-2012
US 5994456 A	30-11-1999	NONE	