

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 748 863 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
30.07.1997 Bulletin 1997/31

(43) Date of publication A2:
18.12.1996 Bulletin 1996/51

(21) Application number: 96109344.0

(22) Date of filing: 11.06.1996

(51) Int. Cl.⁶: **C10M 169/04**, C10M 171/00
// (C10M169/04, 105:04,
143:00, 143:10, 143:16),
C10N20:00, C10N20:04,
C10N40:04

(84) Designated Contracting States:
DE FR GB

(30) Priority: 13.06.1995 JP 170233/95
21.12.1995 JP 349892/95

(71) Applicants:
• COSMO RESEARCH INSTITUTE
Tokyo (JP)
• COSMO OIL COMPANY, LTD.
Tokyo (JP)

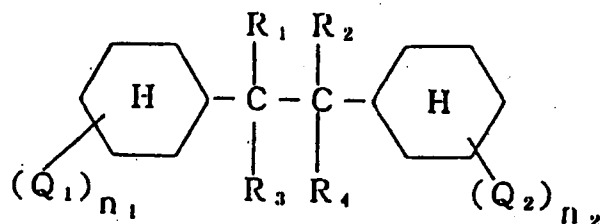
(72) Inventors:
• Sakata, Yasuyuki,
c/o Cosmo Research Institute
Satte-shi, Saitama-ken (JP)

• Soga, Natsuhito,
c/o Cosmo Research Institute
Satte-shi, Saitama-ken (JP)
• Kunoki, Toshio,
c/o Cosmo Research Institute
Satte-shi, Saitama-ken (JP)

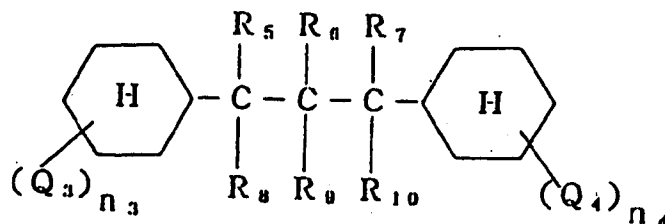
(74) Representative: Wächtershäuser, Günter, Prof.
Dr.
Patentanwalt,
Tal 29
80331 München (DE)

(54) Traction drive fluid composition

(57) A traction drive fluid composition comprising the following component (A),



and/or



wherein R_1 to R_{10} are hydrogen, C_1 - C_3 alkyl, or cyclohexyl, Q_1 to Q_4 are C_1 - C_3 alkyl or cyclohexyl, and n_1 to n_4 are an integer from 0 to 5; component (B) which is a heat copolymer of a cyclopentadiene compound and a vinyl aromatic

EP 0 748 863 A3

EP 0 748 863 A3

hydrocarbon compound or a hydrogenated product of thereof having a softening point of 40°C or higher or a weight average molecular weight of 250 or larger; and, optionally, component (C) which is a compound with a viscosity smaller than that of component (A); a phosphorous compound; and a friction modifier. The composition exhibits a high traction coefficient over a wide temperature range and excellent friction characteristics required for a traction drive device.



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 96 10 9344

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
P,X	PATENT ABSTRACTS OF JAPAN vol. 096, no. 001, 31 January 1996 & JP 07 242891 A (COSMO SOGO KENKYUSHO:KK;OTHERS: 01), 19 September 1995, * abstract *	1,4,5	C10M169/04 C10M171/00 /(C10M169/04, 105:04,143:00, 143:10, 143:16), C10N20:00, C10N20:04, C10N40:04
A	--- DATABASE WPI Section Ch, Week 9327 Derwent Publications Ltd., London, GB; Class A18, AN 93-217120 XP002032183 & JP 05 140 574 A (COSMO OIL CO LTD) , 8 June 1993 * abstract *	1,3,6, 9-11,14, 17	
D,A	--- PATENT ABSTRACTS OF JAPAN vol. 010, no. 098 (C-339), 15 April 1986 & JP 60 228599 A (IDEMITSU KOSAN KK), 13 November 1985, * abstract *	1,3,5,9, 11,13	
A	--- EP 0 526 218 A (TONEN CORPORATION) * page 3, line 55 - page 4, line 19; claims 1,2 *	1-3,7,8, 10,11, 15-17	TECHNICAL FIELDS SEARCHED (Int.Cl.6) C10M
A	--- GB 1 257 474 A (SUN OIL COMPANY) * page 1, line 66 * * page 2, line 105 - page 3, line 5 * --- -/--	1,3-5, 9-13,15, 17	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 3 June 1997	Examiner Hilgenga, K
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

EPO FORM 1503 03.82 (P04C01)



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 96 10 9344

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	GB 1 190 836 A (MONSANTO COMPANY) * page 12, line 32 - line 36; claim 12 * * page 15, line 20 - line 21 * * page 24; example 18 * * page 26, line 1-3 *	1-3,5, 8-11,13, 16,17	
A	US 5 391 307 A (AKIRA YAMAZAKI) * column 3, line 25 - line 55 * * column 8; examples 6,7 *	9,11,18	
A	US 5 064 546 A (MASASHI DASAI) * column 3, line 22 - line 25; claims 1,2,10,19,23 * * column 3, line 34 - line 45 *	9,11,18	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
Place of search THE HAGUE		Date of completion of the search 3 June 1997	Examiner Hilgenga, K
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)