

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 711 822 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
26.03.1997 Bulletin 1997/13

(43) Date of publication A2:
15.05.1996 Bulletin 1996/20

(21) Application number: **95202994.0**

(22) Date of filing: **06.11.1995**

(51) Int. Cl.⁶: **C10M 133/02**, C10M 141/10,
C10M 141/06
// (C10M133/02, 133:06,
133:16), (C10M141/06, 129:40,
133:06, 133:16), (C10M141/10,
129:40, 133:06, 133:16, 135:02,
137:02, 137:04, 137:08),
C10N30:06, C10N30:12,
C10N40:20

(84) Designated Contracting States:
AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE

(30) Priority: **09.11.1994 JP 275185/94**

(71) Applicant: **SHELL INTERNATIONALE RESEARCH
MAATSCHAPPIJ B.V.
2596 HR Den Haag (NL)**

(72) Inventors:
• **Aoki, Nobuhiro**
Yonago-shi, Tottori-ken (JP)
• **Baba, Yoshiharu**
Hatano-shi, Kanagawa-ken (JP)

(54) **Lubricating oil composition**

(57) Lubricating oil compositions for use in lubricating the slideway of a machine tool or injection moulding machine.

The lubricating oil composition comprises (a) a base oil, (b) one or more friction reducing agents preferably selected from phosphoric acid esters or their alkyl ammonium salts, phosphorous acid esters and fatty acids, and (c) one or more linear alkyl amines.

Preferably, the amount of the friction reducing agent(s) (b) is 0.05 to 10.0% by weight based on the amount of the base oil (a) and the amount of the linear alkyl amine(s) (c) is 0.1 to 20.0% by weight based on the amount of the friction reducing agent(s) (b).

EP 0 711 822 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 20 2994

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)
X	DATABASE WPI Section Ch, Week 9403 Derwent Publications Ltd., London, GB; Class E11, AN 94-023127 XP002023595 & JP-A-05 331 478 (TONEN CORP) , 14 December 1993 * abstract *	1-5	C10M133/02 C10M141/10 C10M141/06 //(C10M133/02, 133:06, 133:16), (C10M141/06, 129:40,133:06, 133:16), (C10M141/10, 129:40,133:06, 133:16,135:02, 137:02,137:04, 137:08), C10N30:06, C10N30:12, C10N40:20
X	DATABASE WPI Section Ch, Week 9114 Derwent Publications Ltd., London, GB; Class E11, AN 91-096926 XP002023596 & JP-A-03 039 399 (TONEN CORP) , 20 February 1991 * abstract *	1-5	TECHNICAL FIELDS SEARCHED (Int.Cl.6) C10M
P,X	& US-A-5 391 307 (AKIRA YAMAZAKI) * column 8; example 6 *	1-5	
X	EP-A-0 407 124 (TONEN CORPORATION) * page 8; claims 1,14,15; examples 3-6 *	1-5	
Y	US-A-4 822 507 (HIDEO KANAMORI) * column 3, line 40 - line 50; claims 1,4 *	6,7	
Y	DD-A-63 835 (OTTO REMETH) * the whole document *	6,7	
A	US-A-4 740 323 (ISOO SUZUKI) * column 2, line 33 - line 40 *	6,7	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 27 January 1997	Examiner Hilgenga, K
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			

EPO FORM 1503 03.82 (P4/C01)