

Title (en)  
LUBRICANT COMPOSITION

Title (de)  
SCHMIERMITTELZUSAMMENSETZUNG

Title (fr)  
COMPOSITION LUBRIFIANTE

Publication  
**EP 2522709 A1 20121114 (EN)**

Application  
**EP 10842116 A 20100927**

Priority  
• JP 2010002270 A 20100107  
• JP 2010066708 W 20100927

Abstract (en)  
The lubricating oil composition of the invention comprises a lubricating base oil with a 100°C kinematic viscosity of 1-20 mm<sup>2</sup>/s, and (A) a viscosity index improver having a ratio M1/M2 of 0.20 or greater, between the total area of the peaks between chemical shifts of 36-38 ppm M1 and the total area of the peaks between chemical shifts of 64-66 ppm M2, with respect to the total area of all of the peaks, in the spectrum obtained by 13 C-NMR, (B) a friction modifier, and (C) an overbased metal salt obtained by overbasing an oil-soluble metal salt with an alkaline earth metal borate.

IPC 8 full level  
**C10M 165/00** (2006.01); **C10M 139/00** (2006.01); **C10M 145/14** (2006.01); **C10M 159/22** (2006.01); **C10M 171/02** (2006.01); **C10N 10/04** (2006.01); **C10N 10/12** (2006.01); **C10N 20/00** (2006.01); **C10N 20/02** (2006.01); **C10N 20/04** (2006.01); **C10N 30/06** (2006.01); **C10N 40/25** (2006.01)

CPC (source: CN EP US)  
**C10M 169/048** (2013.01 - CN); **C10M 171/02** (2013.01 - EP US); **C10M 2201/087** (2013.01 - CN); **C10M 2203/1006** (2013.01 - CN); **C10M 2203/1025** (2013.01 - EP US); **C10M 2207/144** (2013.01 - CN); **C10M 2207/262** (2013.01 - EP US); **C10M 2209/084** (2013.01 - CN EP US); **C10M 2215/223** (2013.01 - CN); **C10M 2215/28** (2013.01 - EP US); **C10M 2219/068** (2013.01 - CN EP US); **C10M 2223/02** (2013.01 - CN); **C10M 2223/045** (2013.01 - EP US); **C10N 2020/019** (2020.05 - EP US); **C10N 2020/02** (2013.01 - EP US); **C10N 2020/04** (2013.01 - EP US); **C10N 2030/02** (2013.01 - CN); **C10N 2030/06** (2013.01 - CN EP US); **C10N 2030/52** (2020.05 - EP US); **C10N 2030/54** (2020.05 - CN EP US); **C10N 2040/04** (2013.01 - EP US); **C10N 2040/252** (2020.05 - CN EP US); **C10N 2040/255** (2020.05 - CN EP US)

Citation (third parties)  
Third party :  
• US 2003104955 A1 20030605 - YUKI TSUYOSHI [JP], et al  
• EP 2009074 A1 20081231 - SANYO CHEMICAL IND LTD [JP]  
• JP 2002220597 A 20020809 - NISSAN MOTOR, et al  
• JP 2008031459 A 20080214 - SANYO CHEMICAL IND LTD

Cited by  
EP3101097A4; EP2813563A4; EP2878655A4; US9938482B2; US9783757B2; US9376645B2

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