

Title (en)

LOW SAP ENGINE LUBRICANT ADDITIVE AND COMPOSITION CONTAINING NON-CORROSIVE SULFUR COMPOUND AND ORGANIC BORATES

Title (de)

LOW-SAP-MOTORSCHMIERMITTELZUSATZ UND ZUSAMMENSETZUNG MIT NICHT-KORROSIVER SCHWEFELVERBINDUNG UND ORGANISCHEN BORATEN

Title (fr)

ADDITIF ET COMPOSITION LUBRIFIANTES POUR MOTEUR À FAIBLE TAUX DE SOUFRE, DE CENDRE ET DE PHOSPHORE CONTENANT UN COMPOSÉ SOUFRÉ NON CORROSIF ET DES BORATES ORGANIQUES

Publication

EP 2010636 A2 20090107 (EN)

Application

EP 07775190 A 20070410

Priority

- US 2007008946 W 20070410
- US 79177506 P 20060413
- US 73188007 A 20070330

Abstract (en)

[origin: WO2007120712A2] The present invention is directed to a lubricating oil composition comprising a lubricating oil basestock, a boron-containing additive of at least 0.1 weight percent of the composition and less than 8.0 weight percent, and ashless sulfur additive of at least 0.1 weight percent of the composition and less than 4.0 weight percent, a dispersant-detergent-inhibitor system of less than 15 percent weight percent of the composition, a zinc dithiophosphate additive of at least 0.2 weight percent of the composition and less than 2.0 weight percent of the composition. The elements in the formulated oil composition having at least 100 and less than 630 PPM phosphorus, at least 1,000 PPM and less than 3,000 PPM, at least 100 and less than 630 ppm Phosphorous, and at least 105 PPM and less than 710 PPM zinc. In a second embodiment, an additive composition for lubricating oils is disclosed. In a third embodiment, a method to obtain favorable lubricating properties is disclosed.

IPC 8 full level

C10M 141/12 (2006.01)

CPC (source: EP US)

C10M 141/12 (2013.01 - EP US); **C10M 2203/1006** (2013.01 - EP US); **C10M 2203/1025** (2013.01 - EP US); **C10M 2205/0285** (2013.01 - EP US); **C10M 2205/173** (2013.01 - EP US); **C10M 2207/026** (2013.01 - EP US); **C10M 2207/289** (2013.01 - EP US); **C10M 2215/064** (2013.01 - EP US); **C10M 2215/086** (2013.01 - EP US); **C10M 2215/28** (2013.01 - EP US); **C10M 2217/043** (2013.01 - EP US); **C10M 2219/024** (2013.01 - EP US); **C10M 2219/06** (2013.01 - EP US); **C10M 2219/066** (2013.01 - EP US); **C10M 2219/08** (2013.01 - EP US); **C10M 2219/083** (2013.01 - EP US); **C10M 2219/104** (2013.01 - EP US); **C10M 2219/106** (2013.01 - EP US); **C10M 2223/045** (2013.01 - EP US); **C10M 2227/061** (2013.01 - EP US); **C10M 2227/062** (2013.01 - EP US); **C10N 2010/04** (2013.01 - EP US); **C10N 2010/12** (2013.01 - EP US); **C10N 2030/04** (2013.01 - EP US); **C10N 2030/06** (2013.01 - EP US); **C10N 2030/10** (2013.01 - EP US); **C10N 2030/12** (2013.01 - EP US); **C10N 2030/42** (2020.05 - EP US); **C10N 2030/43** (2020.05 - EP US); **C10N 2030/44** (2020.05 - EP US); **C10N 2030/45** (2020.05 - EP US); **C10N 2040/25** (2013.01 - EP US); **C10N 2060/14** (2013.01 - EP US)

Citation (search report)

See references of WO 2007120712A2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

WO 2007120712 A2 20071025; WO 2007120712 A3 20080221; CA 2648220 A1 20071025; EP 2010636 A2 20090107; EP 2010636 B1 20150708; JP 2009533528 A 20090917; JP 5555487 B2 20140723; US 2008171677 A1 20080717

DOCDB simple family (application)

US 2007008946 W 20070410; CA 2648220 A 20070410; EP 07775190 A 20070410; JP 2009505459 A 20070410; US 73188007 A 20070330