

Title (en)
Lubricating oil composition

Title (de)
Schmierölszusammensetzung

Title (fr)
Composition d'huile de lubrification

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Application
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Abstract (en)
Lubricating oil composition comprising (a) base oil, (b) hindered amine light stabilizer; and (c) an additional performance additive. The present invention also relates to the use of a hindered amine light stabilizer for reducing the loss in oxidation stability of a lubricating composition for lubricating the crankcase of an internal combustion engine when the internal combustion engine is fuelled with a biofuel, preferably a biodiesel which comprises a fatty acid alkyl ester.

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Citation (applicant)
• US 2007151143 A1 20070705 - LI NATALIE [US], et al
• EP 0776959 A2 19970604 - SHELL INT RESEARCH [NL]
• EP 0668342 A1 19950823 - SHELL INT RESEARCH [NL]
• WO 9721788 A1 19970619 - EXXON RESEARCH ENGINEERING CO [US]
• WO 0015736 A2 20000323 - EXXON RESEARCH ENGINEERING CO [US]
• WO 0014188 A2 20000316 - EXXON RESEARCH ENGINEERING CO [US]
• WO 0014187 A2 20000316 - EXXON RESEARCH ENGINEERING CO [US]
• WO 0014183 A1 20000316 - EXXON RESEARCH ENGINEERING CO [US]
• WO 0014179 A1 20000316 - EXXON RESEARCH ENGINEERING CO [US]
• WO 0008115 A1 20000217 - EXXON RESEARCH ENGINEERING CO [US]
• WO 9941332 A1 19990819 - EXXON RESEARCH ENGINEERING CO [US]
• EP 1029029 A1 20000823 - MOBIL OIL CORP [US]
• WO 0118156 A1 20010315 - TOTAL RAFFINAGE DISTRIBUTION [FR], et al
• WO 0157166 A1 20010809 - MOBIL OIL CORP [US]
• US 5004770 A 19910402 - CORTOLANO FRANK P [US], et al
• US 5204473 A 19930420 - WINTER ROLAND A E [US], et al
• US 5096950 A 19920317 - GALBO JAMES P [US], et al
• US 5300544 A 19940405 - GALBO JAMES P [US], et al
• US 5112890 A 19920512 - MALHERBE ROGER FRANCOIS DR [CH], et al
• US 5124378 A 19920623 - BEHRENS RUDOLF A [US], et al
• US 5145893 A 19920908 - GALBO JAMES P [US], et al
• US 5216156 A 19930601 - GALBO JAMES P [US], et al
• US 5844026 A 19981201 - GALBO JAMES P [US], et al
• US 5980783 A 19991109 - GUGUMUS FRANCOIS [CH]
• US 6046304 A 20000404 - BORZATTA VALERIO [IT], et al
• US 6117995 A 20000912 - ZEDDA ALESSANDRO [IT], et al
• US 6271377 B1 20010807 - GALBO JAMES P [US], et al
• US 6297299 B1 20011002 - BORZATTA VALERIO [IT], et al
• US 6392041 B1 20020521 - GALBO JAMES PETER [US], et al
• US 6376584 B1 20020423 - GALBO JAMES PETER [US], et al
• US 6472456 B1 20021029 - HORSEY DOUGLAS WAYNE [US], et al
• US 71471700 A 20001116
• US 48537704 A 20040129
• WO 2007045629 A1 20070426 - SHELL INT RESEARCH [NL], et al
• EP 1058720 B1 20030507 - SHELL INT RESEARCH [NL]
• WO 9826030 A1 19980618 - EXXON RESEARCH ENGINEERING CO [US], et al
• "API Publication 1509", April 2002
• "Kirk-Othmer Encyclopedia of Chemical Technology, third edition," vol. 14, pages: 477 - 526

Citation (search report)
• [YD] US 2007151143 A1 20070705 - LI NATALIE [US], et al
• [Y] WO 2011041346 A1 20110407 - EXXONMOBIL RES & ENG CO [US], et al
• [XI] JP 2003292982 A 20031015 - NIPPON OIL CORP
• [XY] JP 2004051758 A 20040219 - ASAHI DENKA KOGYO KK
• [X] JP 2009197135 A 20090903 - ADEKA CORP
• [X] WO 2008015116 A2 20080207 - CIBA SC HOLDING AG [CH], et al
• [X] US 5268113 A 19931207 - EVANS SAMUEL [CH]
• [X] US 2008221000 A1 20080911 - CHASE KEVIN J [US], et al

Cited by
JP2019504155A; US10414999B2; WO2020194030A1; WO2016156328A1; WO2017127637A1

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