

Title (en)

LUBRICATING OIL ADDITIVE AND LUBRICATING OIL COMPOSITION CONTAINING SAME

Title (de)

SCHMIERÖLADDITIV UND DIESES ENTHALTENDE SCHMIERÖLZUSAMMENSETZUNG

Title (fr)

ADDITIF POUR HUILE LUBRIFIANTE ET COMPOSITION POUR HUILE LUBRIFIANTE CONTENANT CELUI-CI

Publication

EP 1717298 A4 20120711 (EN)

Application

EP 05709314 A 20050125

Priority

- JP 2005000913 W 20050125
- JP 2004024309 A 20040130

Abstract (en)

[origin: EP1717298A1] The present invention provides a lubricating oil additive with excellent cleaning performance which does not include metal components such as calcium or magnesium, and a lubricating oil composition containing the same. The lubricating oil additive according to the present invention is characterized by containing a quaternary ammonium salt having a base number of at least 10 mgKOH/g. Examples of such a quaternary ammonium salt include quaternary ammonium salts obtained by subjecting counter anions in cationic surfactants such as tetraalkylammonium chloride and tetraalkylammonium sulfate to salt-exchange.

IPC 8 full level

C10M 133/04 (2006.01); **C10M 133/06** (2006.01); **C10M 101/02** (2006.01); **C10M 125/00** (2006.01); **C10M 125/26** (2006.01); **C10M 129/04** (2006.01); **C10M 129/26** (2006.01); **C10M 129/32** (2006.01); **C10M 129/84** (2006.01); **C10M 133/16** (2006.01); **C10M 169/04** (2006.01); **C10N 10/04** (2006.01); **C10N 20/00** (2006.01); **C10N 30/04** (2006.01); **C10N 30/10** (2006.01); **C10N 30/12** (2006.01); **C10N 40/04** (2006.01); **C10N 40/25** (2006.01)

CPC (source: EP US)

C10M 133/04 (2013.01 - EP US); **C10M 133/06** (2013.01 - EP US); **C10M 133/16** (2013.01 - EP US); **C10M 169/04** (2013.01 - EP US); **C10M 2203/1006** (2013.01 - EP US); **C10M 2207/026** (2013.01 - EP US); **C10M 2207/10** (2013.01 - EP US); **C10M 2207/262** (2013.01 - EP US); **C10M 2215/02** (2013.01 - EP US); **C10M 2215/04** (2013.01 - EP US); **C10M 2215/042** (2013.01 - EP US); **C10M 2215/06** (2013.01 - EP US); **C10M 2215/064** (2013.01 - EP US); **C10M 2215/08** (2013.01 - EP US); **C10M 2215/28** (2013.01 - EP US); **C10M 2219/046** (2013.01 - EP US); **C10M 2223/045** (2013.01 - EP US); **C10N 2010/04** (2013.01 - EP US); **C10N 2030/04** (2013.01 - EP US); **C10N 2030/041** (2020.05 - EP US); **C10N 2030/06** (2013.01 - EP US); **C10N 2030/10** (2013.01 - EP US); **C10N 2030/12** (2013.01 - EP US); **C10N 2030/52** (2020.05 - EP US); **C10N 2040/04** (2013.01 - EP US); **C10N 2040/25** (2013.01 - EP US)

Citation (search report)

- [X] US 4902437 A 19900220 - VARDI JOSEPH [US], et al
- [X] US 2344886 A 19440321 - EUGENE LIEBER
- [A] US 5264082 A 19931123 - PHAN DEAN V [US], et al
- See references of WO 2005073351A1

Citation (examination)

EP 0293192 A1 19881130 - EXXON CHEMICAL PATENTS INC [US]

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

EP 1717298 A1 20061102; **EP 1717298 A4 20120711**; CA 2552671 A1 20050811; JP 2005213452 A 20050811; JP 4594626 B2 20101208; US 2007155636 A1 20070705; WO 2005073351 A1 20050811

DOCDB simple family (application)

EP 05709314 A 20050125; CA 2552671 A 20050125; JP 2004024309 A 20040130; JP 2005000913 W 20050125; US 58702005 A 20050125