

Title (en)

Combination of a low ash lubricating oil composition and low sulfur fuel

Title (de)

Mischung einer Schmierölzusammensetzung mit niedrigem Aschegehalt und einem schwefelarmen Kraftstoff

Title (fr)

Mélange d'une composition d'huile lubrifiante à faible teneur en cendres et d'un carburant à faible teneur en soufre

Publication

EP 1403359 A1 20040331 (EN)

Application

EP 03255015 A 20030813

Priority

- EP 03255015 A 20030813
- EP 02256354 A 20020913

Abstract (en)

A lubricating oil composition comprises a major amount of oil of lubricating viscosity and a minor amount of metal-containing detergent(s). The lubricating oil composition has a total ash content of less than 1.0 (preferably less than 0.6) wt.% for a diesel internal combustion engine and less than 0.7 (preferably less than 0.4) wt.% for a gasoline internal combustion engine. Independent claims are also included for: (1) a compression-ignited (diesel) internal combustion engine or a spark-ignited (gasoline) internal combustion engine operated with respective diesel or gasoline having a sulfur content of less than 50 (preferably less than 10) ppm and lubricated with a lubricating oil composition; (2) a method of operating a compression-ignited or spark-ignited internal combustion engine by operating the engine with the fuel and lubricating the engine with the lubricating oil composition; and (3) a combination of a fuel having less than 50 (preferably less than 10) ppm and a lubricating oil composition in an internal combustion engine, e.g. compression-ignited or spark-ignited engine.

IPC 1-7

C10M 171/00; C10M 129/54

IPC 8 full level

C10M 129/54 (2006.01); **C10M 171/00** (2006.01)

CPC (source: EP)

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Citation (search report)

- [X] EP 1167497 A2 20020102 - CHEVRON ORONITE JAPAN LTD [JP]
- [X] US 2002098991 A1 20020725 - DUNN ADRIAN [GB], et al
- [XY] US 5672570 A 19970930 - MIYAJI TOMOMI [JP], et al
- [X] EP 1104800 A2 20010606 - ORONITE JAPAN LTD [JP]
- [X] WO 0248293 A1 20020620 - ETHYL CORP [US], et al
- [X] WO 0079117 A1 20001228 - CATERPILLAR INC [US]
- [X] GB 2350865 A 20001213 - CATERPILLAR INC [US]
- [A] WO 0218521 A2 20020307 - EXXONMOBIL RES & ENG CO [US], et al
- [Y] "Erläuterung zum Memorandum der BRD zur Fortschreibung der EU-Kraftstoffrichtlinie bzgl. des Schwefelgehaltes von Kraftstoffen", BMU, 22 August 2001 (2001-08-22), pages 1 - 4, XP002227732, Retrieved from the Internet <URL:www.bmu.de/sachthemen/luft/erklarung-memorandum.htm> [retrieved on 20030116]

Cited by

EP2049631A4; EP1884557A1

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