

Title (en)
LUBRICATING OIL COMPOSITION

Title (de)
SCHMIERÖLZUSAMMENSETZUNG

Title (fr)
COMPOSITION D'HUILE DE GRAISSAGE

Publication
EP 3950904 A4 20221207 (EN)

Application
EP 20781970 A 20200325

Priority
• JP 2019065482 A 20190329
• JP 2020013227 W 20200325

Abstract (en)
[origin: EP3950904A1] Provided is a lubricating oil composition for a gas engine, comprising a base oil (A), a calcium-based detergent (B), and an alkenyl succinimide (C), wherein a content of calcium atoms is 0.09 to 0.17 mass% based on the total amount of the lubricating oil composition, the component (C) comprises a non-boron-modified alkenyl bis-succinimide (C1), and a content of boron atoms derived from the component (C) is less than 0.02 mass% based on the total amount of the lubricating oil composition.

IPC 8 full level
C10M 133/56 (2006.01); **C10M 137/10** (2006.01); **C10M 139/00** (2006.01); **C10M 141/06** (2006.01); **C10M 159/22** (2006.01); **C10M 163/00** (2006.01); **C10M 169/04** (2006.01); **C10N 10/04** (2006.01); **C10N 20/04** (2006.01); **C10N 30/02** (2006.01); **C10N 30/04** (2006.01); **C10N 40/25** (2006.01)

CPC (source: EP US)
C10M 129/54 (2013.01 - US); **C10M 133/44** (2013.01 - US); **C10M 137/10** (2013.01 - US); **C10M 139/00** (2013.01 - US); **C10M 141/12** (2013.01 - US); **C10M 163/00** (2013.01 - EP); **C10M 169/04** (2013.01 - EP US); **C10M 2203/003** (2013.01 - US); **C10M 2203/1025** (2013.01 - EP); **C10M 2207/026** (2013.01 - EP); **C10M 2207/144** (2013.01 - US); **C10M 2207/262** (2013.01 - EP); **C10M 2215/064** (2013.01 - EP); **C10M 2215/28** (2013.01 - EP); **C10M 2215/30** (2013.01 - US); **C10M 2219/046** (2013.01 - EP); **C10M 2223/045** (2013.01 - US); **C10M 2227/061** (2013.01 - US); **C10N 2030/02** (2013.01 - EP); **C10N 2030/04** (2013.01 - US); **C10N 2030/40** (2020.05 - US); **C10N 2040/25** (2013.01 - EP US)

C-Set (source: EP)
1. **C10M 2215/28 + C10N 2060/14**
2. **C10M 2207/262 + C10N 2010/04**

Citation (search report)
• [X] EP 3140378 A1 20170315 - EXXONMOBIL RES & ENG CO [US]
• [X] US 2018334636 A1 20181122 - HOSHINO KOJI [JP], et al
• [X] US 2018258365 A1 20180913 - OHKUBO HITOSHI [JP], et al
• [X] EP 3279294 A1 20180207 - IDEMITSU KOSAN CO [JP]
• [X] WO 2018156304 A1 20180830 - EXXONMOBIL RES & ENG CO [US]
• [A] KO ONODERA ET AL: "Engine Oil Formulation Technology to Prevent Pre-ignition in Turbocharged Direct Injection Spark Ignition Engines", SAE 2010 COMMERCIAL VEHICLE ENGINEERING CONGRESS SAE TECHNICAL PAPERS, vol. 1, 1 September 2015 (2015-09-01), US, XP055642375, ISSN: 0148-7191, DOI: 10.4271/2015-01-2027
• See also references of WO 2020203525A1

Designated contracting state (EPC)
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DOCDB simple family (publication)
EP 3950904 A1 20220209; EP 3950904 A4 20221207; JP 7454556 B2 20240322; JP WO2020203525 A1 20201008;
US 2022169946 A1 20220602; WO 2020203525 A1 20201008

DOCDB simple family (application)
EP 20781970 A 20200325; JP 2020013227 W 20200325; JP 2021511525 A 20200325; US 202017442769 A 20200325