

Title (en)

LUBRICATING COMPOSITIONS AND METHODS OF OPERATING AN INTERNAL COMBUSTION ENGINE

Title (de)

SCHMIERZUSAMMENSETZUNGEN UND VERFAHREN ZUM BETRIEB EINER BRENNKRAFTMASCHINE

Title (fr)

COMPOSITIONS LUBRIFIANTES ET PROCÉDÉS DE FONCTIONNEMENT D'UN MOTEUR À COMBUSTION INTERNE

Publication

**EP 4100497 A1 20221214 (EN)**

Application

**EP 21710093 A 20210204**

Priority

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- US 2021016567 W 20210204

Abstract (en)

[origin: WO2021158757A1] The instant disclosure generally relates to lubricating compositions having an oil of lubricating viscosity, a boron-containing additive, a boron-free dispersant, an overbased magnesium-based detergent, an overbased calcium-based detergent, an ashless friction modifier, and, optionally, other performance additives. The instant lubricating composition has a High Temperature High Shear (HTHS) viscosity according to ASTM D4683 of less than 2.7 mPa s. The instant lubricating compositions disclosed herein may accomplish one or more of the following improve fuel economy, reduce corrosion, reduce oxidation, improve cleanliness, and improve wear performance of an internal combustion engine.

IPC 8 full level

**C10M 141/10** (2006.01); **C10M 141/06** (2006.01)

CPC (source: EP US)

**C10M 129/16** (2013.01 - US); **C10M 129/54** (2013.01 - US); **C10M 133/06** (2013.01 - US); **C10M 135/10** (2013.01 - US); **C10M 141/06** (2013.01 - EP); **C10M 141/08** (2013.01 - US); **C10M 141/10** (2013.01 - EP); **C10M 149/10** (2013.01 - US); **C10M 155/00** (2013.01 - US); **C10M 157/10** (2013.01 - US); **C10M 161/00** (2013.01 - US); **C10M 169/044** (2013.01 - US); **C10M 2203/003** (2013.01 - US); **C10M 2203/1025** (2013.01 - EP); **C10M 2205/0285** (2013.01 - EP); **C10M 2207/028** (2013.01 - EP); **C10M 2207/04** (2013.01 - US); **C10M 2207/262** (2013.01 - EP US); **C10M 2215/26** (2013.01 - EP US); **C10M 2215/28** (2013.01 - EP); **C10M 2217/028** (2013.01 - US); **C10M 2219/046** (2013.01 - EP US); **C10M 2219/068** (2013.01 - EP); **C10M 2229/00** (2013.01 - US); **C10N 2020/04** (2013.01 - US); **C10N 2030/02** (2013.01 - US); **C10N 2030/04** (2013.01 - EP US); **C10N 2030/10** (2013.01 - US); **C10N 2030/52** (2020.05 - EP US); **C10N 2030/54** (2020.05 - EP); **C10N 2030/74** (2020.05 - US); **C10N 2040/25** (2013.01 - US); **C10N 2040/255** (2020.05 - EP)

C-Set (source: EP)

1. **C10M 2203/1025 + C10N 2030/02**
2. **C10M 2207/028 + C10N 2030/04**
3. **C10M 2207/262 + C10N 2010/04**
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5. **C10M 2219/046 + C10N 2010/04**

Designated contracting state (EPC)

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Designated extension state (EPC)

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