

Title (en)  
LUBRICANT OIL COMPOSITION FOR INTERNAL COMBUSTION ENGINE

Title (de)  
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Title (fr)  
COMPOSITION D'HUILE LUBRIFIANTE POUR MOTEUR À COMBUSTION INTERNE

Publication  
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Application  
**EP 13817096 A 20130702**

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Abstract (en)  
The present invention provides a lubricating oil composition for an internal combustion engine that is excellent in functions as an engine oil for an internal combustion engine employing heat management and in particular fuel saving properties and detergency, comprising (A) a base oil having 100°C kinematic viscosity of 3.0 to 5.0 mm<sup>2</sup>/s and (B) a boronated succinimide in an amount of 0.007 percent by mass or more as boron and in an amount of 5 percent by mass or less as the succinimide ashless dispersant, on the basis of the total mass of the composition, (C) a phenol-based antioxidant in an amount of 0.5 percent by mass or more and (D) a viscosity index improver having a ratio of the weight average molecular weight and PSSI of 1.2 x 10<sup>4</sup> or greater in an amount of 0.1 to 5 percent by mass, the composition having a 150°C HTHS viscosity of 2.0 to 2.8 mPa·s, a 100°C HTHS viscosity of 4.8 mPa·s or lower and a viscosity index of 180 or greater.

IPC 8 full level  
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C-Set (source: EP US)  
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4. **C10M 2215/28 + C10N 2060/14**  
US  
1. **C10M 2215/28 + C10N 2060/14**  
2. **C10M 2219/068 + C10N 2010/12**  
3. **C10M 2223/045 + C10N 2010/04**  
4. **C10M 2207/226 + C10N 2010/04**

Cited by  
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