Title (en)

IMPROVED ANTI-WEAR PERFORMANCE OF LUBRICANTS USING CARBON NANOPLATELETS

Title (de)

VERBESSERTE VERSCHLEISSSCHUTZLEISTUNG VON SCHMIERMITTELN UNTER VERWENDUNG VON KOHLENSTOFFNANOPLATELETS

Title (fr)

PERFORMANCE ANTI-USURE AMÉLIORÉE DE LUBRIFIANTS À L'AIDE DE NANOPLAQUETTES DE CARBONE

Publication

EP 2880136 A1 20150610 (EN)

Application

EP 13745282 A 20130723

Priority

- US 201261679872 P 20120806
- US 2013051592 W 20130723

Abstract (en)

[origin: US2014038862A1] Provided are a lubricating engine oil and a method of improving wear protection in an engine lubricated with such lubricating oil. The method includes using as the lubricating oil a formulated oil comprising a lubricating oil base stock as a major component, an antiwear additive as a first minor component, and carbon nanoplatelets as a second minor component. The carbon nanoplatelets are dispersed in said lubricating oil base stock. Wear protection is improved as compared to wear protection achieved using a lubricating oil not containing carbon nanoplatelets as a second minor component. A synergy exists between carbon nanoplatelets and other major components of lubricants, especially with zinc dialkyldithiophosphate (ZDDP) or other phosphate antiwear additives, that helps to form a nano-composite wear resistant and low friction tribofilm both on ferrous and non-ferrous surfaces (e.g., carbon coatings, ceramic coatings, polymeric coatings, and the like) of engines/machines.

IPC 8 full level

C10M 125/02 (2006.01)

CPC (source: EP US)

C10M 125/02 (2013.01 - EP US); **C10M 141/10** (2013.01 - EP US); C10M 2201/041 (2013.01 - EP US); C10M 2205/0285 (2013.01 - EP US); C10M 2223/045 (2013.01 - EP US); C10N 2020/06 (2013.01 - EP US); C10N 2030/02 (2013.01 - EP US); C10N 2030/06 (2013.01 - EP US); C10N 2040/25 (2013.01 - EP US)

Citation (search report)

See references of WO 2014025523A1

Cited by

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Designated extension state (EPC)

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DOCDB simple family (application)

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