Title (en)

Additive for lubricant for improving the tribologic properties, a method for its production and application

Title (de)

Additive für Schmiermittel zur Verbesserung der tribologischen Eigenschaften, ein Verfahren zu deren Herstellung und deren Verwendung

Title (fr)

Additif pour lubrifiant destiné à l'amélioration des propriétés tribologiques, son procédé de fabrication et d'utilisation

Publication

EP 2311926 A1 20110420 (DE)

Application

EP 09172634 A 20091009

Priority

EP 09172634 A 20091009

Abstract (en)

Lubricant comprises ceramic nanoparticles as additives comprising aluminum oxide, aluminum nitride, silicon dioxide, titanium dioxide, zirconium oxide, yttrium oxide, tungsten oxide, tantalum pentoxide, vanadium pentoxide, niobium pentoxide, cerium dioxide, boron carbide, aluminum titanate, boron nitride, molybdenum disilicide, silicon carbide, silicon nitride, titanium carbide, titanium nitride, zirconium diboride and/or clay minerals, and thermally stable carbonates and/or sulfates. The nanoparticles represent an ellipsoid with three semi-axes a, b and c. Lubricant comprises ceramic nanoparticles as additives comprising aluminum oxide, aluminum nitride, silicon dioxide, titanium dioxide, zirconium oxide, yttrium oxide, tungsten oxide, tantalum pentoxide, vanadium pentoxide, niobium pentoxide, cerium dioxide, boron carbide, aluminum titanate, boron nitride, molybdenum disilicide, silicon carbide, silicon nitride, titanium carbide, titanium nitride, zirconium diboride and/or clay minerals, and thermally stable carbonates and/or sulfates. The nanoparticles represent an ellipsoid with three semi-axes a, b and c, which are not equal to each other, or equal to each other. The ratio of a and b is 1-100, a and c is 1-1000, and b and c is 1:100. An independent claim is also included for preparing the lubricant, comprising mixing the nanoparticles in a base fluid with optionally further additives, dispersing the resulting mixture by mechanical action, and optionally adding further additives.

Abstract (de)

Die vorliegende Erfindung betrifft neue Additive für Schmiermittel zur Verbesserung der tribologischen Eigenschaften, ein Verfahren zu deren Herstellung und deren Verwendung.

IPC 8 full level

C10M 103/06 (2006.01)

CPC (source: EP US)

C10M 171/06 (2013.01 - EP US); **C10M 173/00** (2013.01 - EP US); C10M 2201/061 (2013.01 - EP US); C10M 2201/062 (2013.01 - EP US); C10M 2201/08 (2013.01 - EP US); C10M 2201/084 (2013.01 - EP US); C10M 2201/087 (2013.01 - EP US); C10M 2201/102 (2013.01 - EP US); C10M 2201/1026 (2013.01 - EP US); C10M 2201/103 (2013.01 - EP US); C10M 2201/105 (2013.01 - EP US); C10M 2203/0206 (2013.01 - EP US); C10M 2203/1025 (2013.01 - EP US); C10M 2205/0265 (2013.01 - EP US); C10M 2205/183 (2013.01 - EP US); C10M 2207/1256 (2013.01 - EP US); C10M 2207/1265 (2013.01 - EP US); C10M 2207/2815 (2013.01 - EP US); C10M 2207/2825 (2013.01 - EP US); C10M 2207/2835 (2013.01 - EP US); C10M 2207/301 (2013.01 - EP US); C10M 2207/401 (2013.01 - EP US); C10M 2209/1033 (2013.01 - EP US); C10M 2217/045 (2013.01 - EP US); C10M 2217/0456 (2013.01 - EP US); C10M 2229/025 (2013.01 - EP US); C10N 2010/06 (2013.01 - EP US); C10N 2010/08 (2013.01 - EP US); C10N 2010/10 (2013.01 - EP US); C10N 2010/12 (2013.01 - EP US); C10N 2020/055 (2020.05 - EP US); C10N 2020/06 (2013.01 - EP US); C10N 2020/077 (2020.05 - EP US); C10N 2020/081 (2020.05 - EP US); C10N 2030/06 (2013.01 - EP US); C10N 2030/08 (2013.01 - EP US); C10N 2050/015 (2020.05 - EP US); C10N 2050/10 (2013.01 - EP US)

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DOCDB simple family (publication)

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