

Title (en)
LUBRICATING OIL CONTAINING ALKYL PHOSPHONIC ACID

Title (de)
ALKYLPHOSPHONSÄURE ENTHALTENDES SCHMIERÖL

Title (fr)
HUILE LUBRIFIANTE CONTENANT DE L'ACIDE ALKYLPHOSPHONIQUE

Publication
EP 4211210 A1 20230719 (EN)

Application
EP 21783050 A 20210914

Priority

- US 202063078009 P 20200914
- IB 2021058338 W 20210914

Abstract (en)
[origin: WO2022054023A1] This disclosure describes a zinc-free lubricating oil composition. The composition includes a major amount of an oil of lubricating viscosity having a kinematic viscosity at 100°C in a range of about 1.5 to about 35 mm²/s and an anti-wear mixture having one or more ashless dispersants and an alkyl phosphonic acid having a structure given by (I) wherein R is a C₃-C₂₀ hydrocarbyl group. The initial pH of the anti-wear mixture is between 5-9.5 as measured by ASTM D664.

IPC 8 full level
C10M 141/10 (2006.01)

CPC (source: EP US)
C10M 141/10 (2013.01 - EP US); **C10M 2215/28** (2013.01 - EP US); **C10M 2223/06** (2013.01 - EP US); **C10N 2030/02** (2013.01 - EP US); **C10N 2030/06** (2013.01 - EP US); **C10N 2030/40** (2020.05 - EP US); **C10N 2040/04** (2013.01 - EP US); **C10N 2040/16** (2013.01 - EP US)

C-Set (source: EP)
C10M 2215/28 + C10N 2060/14

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
WO 2022054023 A1 20220317; AU 2021340009 A1 20230330; CA 3193618 A1 20220317; CN 116323878 A 20230623; EP 4211210 A1 20230719; JP 2023541435 A 20231002; US 2024101923 A1 20240328

DOCDB simple family (application)
IB 2021058338 W 20210914; AU 2021340009 A 20210914; CA 3193618 A 20210914; CN 202180062873 A 20210914; EP 21783050 A 20210914; JP 2023516492 A 20210914; US 202118023945 A 20210914