

Title (en)

Lubricating oil composition containing alkali metal borates with improved frictional properties

Title (de)

Schmierölzusammensetzung mit Alkalimetall-Boraten mit verbesserten Reibungseigenschaften

Title (fr)

Composition d'huile lubrifiante contenant des borates de métal alcalin dotée de propriétés de friction améliorées

Publication

EP 1988146 A3 20090617 (EN)

Application

EP 08251076 A 20080326

Priority

US 74243507 A 20070430

Abstract (en)

[origin: EP1988146A2] A lubricating oil composition with improved frictional and wear performance, especially when the ratio of polysulfides is controlled, wherein said composition comprises a major amount of an oil of lubricating viscosity, at least one alkali metal borate; at least one dihydrocarbyl polysulfide component comprising a mixture of sulfides and having at least 30% dihydrocarbyl tetrasulfide or higher sulfides; at least one non-acidic phosphorus component comprised of a trihydrocarbyl phosphite; at least one dihydrocarbyl dithiophosphate; and a phosphorus component comprising a dihydrocarbyl phosphite component is disclosed.

IPC 8 full level

C10M 141/12 (2006.01)

CPC (source: EP US)

C10M 141/12 (2013.01 - EP US); **C10M 2201/087** (2013.01 - EP US); **C10M 2203/1006** (2013.01 - EP US); **C10M 2205/0285** (2013.01 - EP US); **C10M 2205/173** (2013.01 - EP US); **C10M 2207/282** (2013.01 - EP US); **C10M 2219/046** (2013.01 - EP US); **C10M 2219/08** (2013.01 - EP US); **C10M 2223/043** (2013.01 - EP US); **C10M 2223/047** (2013.01 - EP US); **C10M 2223/049** (2013.01 - EP US); **C10N 2030/06** (2013.01 - EP US); **C10N 2040/04** (2013.01 - EP US); **C10N 2040/042** (2020.05 - EP US); **C10N 2040/044** (2020.05 - EP US)

C-Set (source: EP US)

1. **C10M 2201/087** + **C10N 2010/02**
2. **C10M 2219/046** + **C10N 2010/04**

Citation (search report)

- [X] US 2006252656 A1 20061109 - ZAKARIAN JOHN A [US], et al
- [X] US 2006252657 A1 20061109 - ZAKARIAN JOHN A [US], et al
- [A] EP 1471133 A2 20041027 - CHEVRON ORONITE CO [US]

Cited by

CN102071089A

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA MK RS

DOCDB simple family (publication)

EP 1988146 A2 20081105; **EP 1988146 A3 20090617**; CA 2627866 A1 20081030; JP 2008274276 A 20081113; SG 147382 A1 20081128; US 2008269085 A1 20081030

DOCDB simple family (application)

EP 08251076 A 20080326; CA 2627866 A 20080401; JP 2008114307 A 20080424; SG 2008027799 A 20080410; US 74243507 A 20070430