

Title (en)

Additive composition for transmission oil containing hydrated alkali metal borate and hexagonal boron nitride

Title (de)

Hydratisiertes Alkalimetallborat und hexagonales Bornitrid enthaltende Additivzusammensetzung für Getriebeöle

Title (fr)

Composition d'additifs pour huile de transmission contenant du borate de metal alcalin hydraté et du nitrure de bore hexagonal

Publication

EP 1386956 A1 20040204 (EN)

Application

EP 02291928 A 20020730

Priority

EP 02291928 A 20020730

Abstract (en)

Disclosed are additive compositions for transmission oils comprising an oil dispersion of a hydrated alkali metal borate and an oil dispersion of hexagonal boron nitride, as well as lubricating oil compositions containing the same.

IPC 1-7

C10M 125/26

IPC 8 full level

C10M 125/26 (2006.01); **C10M 169/04** (2006.01); **C10N 10/02** (2006.01); **C10N 30/06** (2006.01); **C10N 40/04** (2006.01)

CPC (source: EP US)

C10M 125/26 (2013.01 - EP US); **C10M 169/04** (2013.01 - EP US); **C10M 2201/061** (2013.01 - EP US); **C10M 2201/087** (2013.01 - EP US); **C10M 2203/1006** (2013.01 - EP US); **C10M 2205/0206** (2013.01 - EP US); **C10M 2205/022** (2013.01 - EP US); **C10M 2205/024** (2013.01 - EP US); **C10N 2010/02** (2013.01 - EP US); **C10N 2020/04** (2013.01 - EP US); **C10N 2020/06** (2013.01 - EP US); **C10N 2030/06** (2013.01 - EP US); **C10N 2040/04** (2013.01 - EP US); **C10N 2040/044** (2020.05 - EP US)

Citation (search report)

- [DA] US 3313727 A 19670411 - PEELER ROBERT L
- [DA] US 4787993 A 19881129 - NAGAHIRO TAIZO [JP]
- [A] US 2156803 A 19390502 - COOPER HUGH S, et al
- [A] US 5154839 A 19921013 - HANANO TAKASHI [JP]
- [A] DATABASE WPI Section Ch Week 199909, Derwent World Patents Index; Class E36, AN 1999-101378, XP002225737
- [A] DATABASE WPI Section Ch Week 198834, Derwent World Patents Index; Class A97, AN 1988-239233, XP002225738
- [A] DATABASE WPI Section Ch Week 200053, Derwent World Patents Index; Class A60, AN 2000-567428, XP002225739

Cited by

CN111979026A; EP1535987A1; WO2011046524A1; WO2005059068A3

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

DOCDB simple family (publication)

EP 1386956 A1 20040204; **EP 1386956 B1 20090701**; AT E435268 T1 20090715; AU 2003260447 A1 20040223; AU 2003260447 A8 20040223; CA 2493288 A1 20040212; CA 2493288 C 20111115; DE 60232788 D1 20090813; ES 2329446 T3 20091126; JP 2005534762 A 20051117; JP 4391937 B2 20091224; US 2004147409 A1 20040729; US 2008153724 A1 20080626; US 2012172264 A1 20120705; WO 2004013262 A1 20040212; WO 2004013262 A8 20040521

DOCDB simple family (application)

EP 02291928 A 20020730; AT 02291928 T 20020730; AU 2003260447 A 20030728; CA 2493288 A 20030728; DE 60232788 T 20020730; EP 0309312 W 20030728; ES 02291928 T 20020730; JP 2004525416 A 20030728; US 201213416392 A 20120309; US 62424003 A 20030722; US 99971207 A 20071204