

Title (en)
GRAPHITE-FREE HIGH-TEMPERATURE LUBRICANT

Title (de)
GRAPHITFREIER HOCHTEMPERATUR-SCHMIERSTOFF

Title (fr)
LUBRIFIANT HAUTE TEMPÉRATURE SANS GRAPHITE

Publication
EP 2032679 A2 20090311 (DE)

Application
EP 07765571 A 20070622

Priority
• EP 2007056260 W 20070622
• DE 102006030113 A 20060628

Abstract (en)
[origin: WO2008000700A2] The invention relates to a high-temperature lubricant for the heat treatment of metals, said lubricant consisting of a mixture of pulverulent materials. The aim of the invention is to provide a high-temperature lubricant with good free-flowing properties and behaviour for dissolving scale on heated metallic surfaces, said lubricant being applied in a powder form and enabling a good covering of the metallic surface, having good free-flowing properties without much agglutination even after a long storage period under production conditions, and avoiding the use of graphite. To this end, the mixture contains at least the following components: a) a secondary and/or tertiary calcium phosphate compound, b) a fatty acid or a fatty acid salt, c) boric acid, a boric acid salt (borate) and/or a mineral containing a boric acid salt (borate) and d) condensed alkali phosphate. The constituents of the mixture have an average particle size of 150 µm and the lubricant does not contain any added graphite.

IPC 8 full level
C10M 169/04 (2006.01); **C10N 10/02** (2006.01); **C10N 10/04** (2006.01); **C10N 20/06** (2006.01); **C10N 30/08** (2006.01); **C10N 40/24** (2006.01); **C10N 50/08** (2006.01)

CPC (source: EP US)
C10M 169/04 (2013.01 - EP US); **C10M 2201/085** (2013.01 - EP US); **C10M 2201/0853** (2013.01 - EP US); **C10M 2201/087** (2013.01 - EP US); **C10M 2207/122** (2013.01 - EP US); **C10M 2207/126** (2013.01 - EP US); **C10N 2010/02** (2013.01 - EP US); **C10N 2010/04** (2013.01 - EP US); **C10N 2020/06** (2013.01 - EP US); **C10N 2030/08** (2013.01 - EP US); **C10N 2030/40** (2020.05 - EP US); **C10N 2040/24** (2013.01 - EP US); **C10N 2040/241** (2020.05 - EP US); **C10N 2050/08** (2013.01 - EP US)

Citation (search report)
See references of WO 2008000700A2

Citation (third parties)
Third party :
• WO 2006054768 A1 20060526 - SUMITOMO METAL IND [JP], et al
• WO 8202058 A1 19820624 - ROCOL LTD [GB], et al
• RO 117706 B
• RU 2296636 C1 20070410 - ROSSIJSKIY NII TRUBNOJ PROMY O [RU]
• SU 454246 A1 19741225
• SU 505674 A1 19760305
• US 4710307 A 19871201 - PERIARD JACQUES [CH], et al

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA HR MK RS

DOCDB simple family (publication)
DE 102006030113 A1 20080103; **DE 102006030113 B4 20090212**; AR 061694 A1 20080917; CN 101479369 A 20090708; CN 101479369 B 20130501; EP 2032679 A2 20090311; EP 2032679 B1 20150107; EP 2878661 A1 20150603; ES 2532847 T3 20150401; PL 2032679 T3 20150630; RU 2009102453 A 20100810; RU 2458111 C2 20120810; SI 2032679 T1 20150430; US 2010298181 A1 20101125; US 8940672 B2 20150127; WO 2008000700 A2 20080103; WO 2008000700 A3 20080228

DOCDB simple family (application)
DE 102006030113 A 20060628; AR P070102795 A 20070625; CN 200780024032 A 20070622; EP 07765571 A 20070622; EP 14198677 A 20070622; EP 2007056260 W 20070622; ES 07765571 T 20070622; PL 07765571 T 20070622; RU 2009102453 A 20070622; SI 200731628 T 20070622; US 30844007 A 20070622