Title (en)
COMPOSITION AND PROCESS FOR LUBRICATED PLASTIC WORKING OF METALS

Title (de)
ZUSAMMENSETZUNG UND VERFAHREN ZUR BESCHICHTUNG VON METALLEN MIT SCHMIERKUNSTSTOFFEN

Title (fr)
COMPOSITION ET PROCEDE POUR L'ENROBAGE DE METAUX AVEC UN PLASTIQUE LUBRIFIE

Publication
EP 1093510 B1 20060329 (EN)

Application
EP 99927194 A 19990609

Priority
• JP 17660298 A 19980609
• US 9912364 W 19990609

Abstract (en)
[origin: WO9964544A1] A lubricant composition for the plastic working of metals that does not require a phosphate undercoating, is waterborne, requires only a simple application process of immersion or spraying followed by drying, and provides an excellent lubricating performance comprises synthetic resin, water-soluble inorganic salt, and water. The weight ratio of the content of salt to that of synthetic resin is from 0.25:1 to 9:1. This composition can also contain liquid and/or solid lubricating agent(s) and extreme pressure additive.

IPC 8 full level
C10M 173/02 (2006.01); **C10M 111/04** (2006.01); **C10M 169/04** (2006.01); **C10M 173/00** (2006.01); C10M 125/10 (2006.01); C10M 125/22 (2006.01); C10M 125/26 (2006.01); C10M 129/40 (2006.01); C10M 143/02 (2006.01); C10M 145/04 (2006.01); C10M 145/12 (2006.01); C10M 145/14 (2006.01); C10M 145/18 (2006.01); C10M 145/20 (2006.01); C10M 147/02 (2006.01); C10M 149/10 (2006.01); C10M 149/18 (2006.01); C10M 159/06 (2006.01); C10N 40/24 (2006.01); C10N 50/02 (2006.01)

CPC (source: EP KR)
C10M 111/04 (2013.01 - EP); **C10M 169/04** (2013.01 - EP); **C10M 173/00** (2013.01 - EP KR); C10M 2201/00 (2013.01 - EP); C10M 2201/02 (2013.01 - EP); C10M 2201/041 (2013.01 - EP); C10M 2201/042 (2013.01 - EP); C10M 2201/06 (2013.01 - EP); C10M 2201/065 (2013.01 - EP); C10M 2201/066 (2013.01 - EP); C10M 2201/08 (2013.01 - EP); C10M 2201/081 (2013.01 - EP); C10M 2201/082 (2013.01 - EP); C10M 2201/084 (2013.01 - EP); C10M 2201/087 (2013.01 - EP); C10M 2201/102 (2013.01 - EP); C10M 2201/18 (2013.01 - EP); C10M 2205/022 (2013.01 - EP); C10M 2205/024 (2013.01 - EP); C10M 2205/14 (2013.01 - EP); C10M 2205/16 (2013.01 - EP); C10M 2205/17 (2013.01 - EP); C10M 2205/18 (2013.01 - EP); C10M 2207/125 (2013.01 - EP); C10M 2207/126 (2013.01 - EP); C10M 2207/129 (2013.01 - EP); C10M 2209/04 (2013.01 - EP); C10M 2209/06 (2013.01 - EP); C10M 2209/062 (2013.01 - EP); C10M 2209/08 (2013.01 - EP); C10M 2209/084 (2013.01 - EP); C10M 2209/101 (2013.01 - EP); C10M 2209/11 (2013.01 - EP); C10M 2209/111 (2013.01 - EP); C10M 2209/112 (2013.01 - EP); C10M 2211/044 (2013.01 - EP); C10M 2211/06 (2013.01 - EP); C10M 2211/08 (2013.01 - EP); C10M 2217/024 (2013.01 - EP); C10M 2217/028 (2013.01 - EP); C10M 2217/042 (2013.01 - EP); C10M 2217/043 (2013.01 - EP); C10M 2217/044 (2013.01 - EP); C10M 2217/045 (2013.01 - EP); C10M 2217/06 (2013.01 - EP); C10M 2219/022 (2013.01 - EP); C10M 2219/024 (2013.01 - EP); C10M 2219/062 (2013.01 - EP); C10M 2219/066 (2013.01 - EP); C10M 2219/068 (2013.01 - EP); C10M 2219/082 (2013.01 - EP); C10M 2223/04 (2013.01 - EP); C10M 2223/042 (2013.01 - EP); C10M 2223/045 (2013.01 - EP); C10N 2010/02 (2013.01 - EP); C10N 2010/04 (2013.01 - EP); C10N 2010/06 (2013.01 - EP); C10N 2010/12 (2013.01 - EP); C10N 2040/24 (2013.01 - EP); C10N 2040/241 (2020.05 - EP); C10N 2040/242 (2020.05 - EP); C10N 2040/243 (2020.05 - EP); C10N 2040/244 (2020.05 - EP); C10N 2040/245 (2020.05 - EP); C10N 2040/246 (2020.05 - EP); C10N 2040/247 (2020.05 - EP); C10N 2050/01 (2020.05 - EP); C10N 2050/02 (2013.01 - EP)

Cited by
EP3309855A1; IT202200006158A1

Designated contracting state (EPC)
AT BE DE ES FI FR GB IT SE

DOCDB simple family (publication)
WO 9964544 A1 19991216; AT E321831 T1 20060415; AU 4416299 A 19991230; AU 763155 B2 20030717; CA 2334716 A1 19991216; CA 2334716 C 20090818; CN 1148437 C 20040505; CN 1243150 A 20000202; DE 69930628 D1 20060518; DE 69930628 T2 20070201; EP 1093510 A1 20010425; EP 1093510 A4 20020605; EP 1093510 B1 20060329; ES 2257053 T3 20060716; IN 192718 B 20040515; KR 20000006017 A 20000125; TW 444056 B 20010701

DOCDB simple family (application)
US 9912364 W 19990609; AT 99927194 T 19990609; AU 4416299 A 19990609; CA 2334716 A 19990609; CN 99109715 A 19990609; DE 69930628 T 19990609; EP 99927194 A 19990609; ES 99927194 T 19990609; IN 412BO1999 A 19990603; KR 19990021225 A 19990608; TW 88109556 A 19990608