

Title (en)

AQUEOUS LUBRICANT FOR PLASTIC WORKING OF METALLIC MATERIAL AND METHOD OF LUBRICANT FILM PROCESSING

Title (de)

WÄSSRIGER SCHMIERSTOFF ZUR PLASTISCHEN VERARBEITUNG METALLISCHER WERKSTOFFE UND VERFAHREN ZUR HERSTELLUNG EINES SCHMIERMITTELFILMS

Title (fr)

LUBRIFIANT AQUEUX POUR LE TRAVAIL PLASTIQUE D'UN MATERIAU METALLIQUE ET PROCEDE D'ELABORATION D'UN FILM LUBRIFIANT

Publication

EP 1319702 B1 20161109 (EN)

Application

EP 01925970 A 20010426

Priority

- JP 0103639 W 20010426
- JP 2000237968 A 20000807

Abstract (en)

[origin: EP1319702A1] An aqueous lubricant used for plastic working of metallic material which comprises (A) a water soluble inorganic salt, (B) lubricative agent selected from molybdenum disulfide and graphite and (C) wax, wherein the components are dissolved or dispersed in water, and wherein a concentration ratio (weight ratio) of (B) /(A) is in the range of 1.0 SIMILAR 5.0 and (C) / (A) is 0.1 SIMILAR 1. 0. And a method of lubricative film processing on a metallic material, in that the lubricative film formed by applying the aqueous lubricant is in a dried weight of 0.5 SIMILAR 40g/m². A water soluble inorganic salt (A) is preferably selected from the group consisting of a sulfate, a silicate, a borate, a molybdate and a tungstate. The wax (C) is preferably a natural wax or a synthetic wax which is dispersed in water and has a melting point of 70 SIMILAR 150 DEG C. The aqueous lubricant can be used for imparting excellent lubricity with ease to the surface of a metal having no chemical conversion layer formed thereon. <IMAGE>

IPC 8 full level

B21C 9/00 (2006.01); **B21C 9/02** (2006.01); **B21J 3/00** (2006.01); **C10M 111/00** (2006.01); **C10M 173/00** (2006.01); **C10M 173/02** (2006.01); **C10M 125/02** (2006.01); **C10M 125/26** (2006.01); **C10M 143/02** (2006.01); **C10N 40/24** (2006.01)

CPC (source: EP KR US)

B21C 9/005 (2013.01 - EP US); **B21C 9/02** (2013.01 - EP US); **B21J 3/00** (2013.01 - EP US); **C10M 111/00** (2013.01 - EP US); **C10M 125/02** (2013.01 - EP US); **C10M 125/10** (2013.01 - EP US); **C10M 125/22** (2013.01 - EP US); **C10M 125/26** (2013.01 - EP US); **C10M 159/06** (2013.01 - EP KR US); **C10M 173/00** (2013.01 - EP US); **C10M 173/02** (2013.01 - EP US); **C10M 2201/041** (2013.01 - EP US); **C10M 2201/0413** (2013.01 - EP US); **C10M 2201/042** (2013.01 - EP US); **C10M 2201/062** (2013.01 - EP US); **C10M 2201/065** (2013.01 - EP US); **C10M 2201/066** (2013.01 - EP US); **C10M 2201/0663** (2013.01 - EP US); **C10M 2201/08** (2013.01 - EP US); **C10M 2201/0803** (2013.01 - EP US); **C10M 2201/081** (2013.01 - EP US); **C10M 2201/082** (2013.01 - EP US); **C10M 2201/084** (2013.01 - EP US); **C10M 2201/087** (2013.01 - EP US); **C10M 2201/0873** (2013.01 - EP US); **C10M 2201/10** (2013.01 - EP US); **C10M 2201/102** (2013.01 - EP US); **C10M 2201/1023** (2013.01 - EP US); **C10M 2201/105** (2013.01 - EP US); **C10M 2205/14** (2013.01 - EP US); **C10M 2205/143** (2013.01 - EP US); **C10M 2205/16** (2013.01 - EP US); **C10M 2205/163** (2013.01 - EP US); **C10M 2205/17** (2013.01 - EP US); **C10N 2040/24** (2013.01 - EP US); **C10N 2040/246** (2020.05 - EP US); **C10N 2050/01** (2020.05 - EP US); **C10N 2050/02** (2013.01 - EP US); **C10N 2070/00** (2013.01 - EP US)

Cited by

US9192973B1

Designated contracting state (EPC)

DE FR IT

DOCDB simple family (publication)

EP 1319702 A1 20030618; **EP 1319702 A4 20040811**; **EP 1319702 B1 20161109**; CA 2418942 A1 20030207; CA 2418942 C 20100914; CN 1214095 C 20050810; CN 1468294 A 20040114; JP 3984158 B2 20071003; KR 100621693 B1 20060908; KR 20030027002 A 20030403; MX PA03000789 A 20041101; US 2003130137 A1 20030710; WO 0212419 A1 20020214

DOCDB simple family (application)

EP 01925970 A 20010426; CA 2418942 A 20010426; CN 01816963 A 20010426; JP 0103639 W 20010426; JP 2002517710 A 20010426; KR 20037001682 A 20030205; MX PA03000789 A 20010426; US 36048203 A 20030207