

Title (en)
Salt precoat as lubricant carrier for metal forming

Title (de)
Schmiermittelträgersalz für die Metallumformung

Title (fr)
Revêtement de sel porteur de lubrifiant pour la déformation des métaux

Publication
EP 0711821 B1 20000517 (DE)

Application
EP 95115908 A 19951010

Priority
DE 4440301 A 19941111

Abstract (en)
[origin: EP0711821A1] Lubricant carrier salt is based on boric acid and/or alkali borate and contains aliphatic di- or tri-carboxylic acid (non)subst. by at least one OH group and their alkali salts The wt. ratio of boric acid/alkali borate (calc. as H3BO3) to carboxylic acid (calc. as citric acid) is 5-15:1. Also claimed is a process for facilitating cold forming of iron or steel workpieces, in which the lubricant carrier salt is applied as an aq. soln. or dispersion in a concn. of 5-30 wt. % and at 80-100 degrees C, to form a phosphate coating.

IPC 1-7
C10M 111/02; **C10M 111/04**; **B21C 9/02**

IPC 8 full level
B21C 9/02 (2006.01); **C10M 111/02** (2006.01); **C10M 111/04** (2006.01)

CPC (source: EP US)
B21C 9/02 (2013.01 - EP US); **C10M 103/00** (2013.01 - EP US); **C10M 103/06** (2013.01 - EP US); **C10M 105/24** (2013.01 - EP US); **C10M 105/26** (2013.01 - EP US); **C10M 107/36** (2013.01 - EP US); **C10M 111/02** (2013.01 - EP US); **C10M 111/04** (2013.01 - EP US); **C10M 2201/003** (2013.01 - EP US); **C10M 2201/0403** (2013.01 - EP US); **C10M 2201/0433** (2013.01 - EP US); **C10M 2201/0603** (2013.01 - EP US); **C10M 2201/0613** (2013.01 - EP US); **C10M 2201/0623** (2013.01 - EP US); **C10M 2201/0653** (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 2201/0853** (2013.01 - EP US); **C10M 2201/0863** (2013.01 - EP US); **C10M 2201/087** (2013.01 - EP US); **C10M 2201/0873** (2013.01 - EP US); **C10M 2201/1006** (2013.01 - EP US); **C10M 2201/102** (2013.01 - EP US); **C10M 2201/1023** (2013.01 - EP US); **C10M 2201/1033** (2013.01 - EP US); **C10M 2201/1053** (2013.01 - EP US); **C10M 2201/123** (2013.01 - EP US); **C10M 2207/1203** (2013.01 - EP US); **C10M 2207/1213** (2013.01 - EP US); **C10M 2207/1233** (2013.01 - EP US); **C10M 2207/124** (2013.01 - EP US); **C10M 2207/125** (2013.01 - EP US); **C10M 2207/1253** (2013.01 - EP US); **C10M 2207/1273** (2013.01 - EP US); **C10M 2207/129** (2013.01 - EP US); **C10M 2207/1293** (2013.01 - EP US); **C10M 2207/163** (2013.01 - EP US); **C10M 2207/183** (2013.01 - EP US); **C10M 2207/203** (2013.01 - EP US); **C10M 2207/223** (2013.01 - EP US); **C10M 2207/243** (2013.01 - EP US); **C10M 2209/12** (2013.01 - EP US); **C10M 2209/123** (2013.01 - EP US); **C10N 2010/02** (2013.01 - EP US)

Cited by
WO2009095374A1; WO2009095373A1; AU2009209697B2; IT202200006158A1; US8956699B2; US8915108B2; US9422503B2; WO2009095375A1

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