Title (en)

Modified dispersant compositions

Title (de)

Modifizierte Lösungsmittelzusammensetzungen

Title (fr)

Compositions dispersantes modifiées

Publication

EP 0460309 B2 20000705 (EN)

Application

EP 90306128 A 19900606

Priority

EP 90306128 A 19900606

Abstract (en)

[origin: EP0460309A1] An oil soluble dispersant composition formed by reacting a basic nitrogen-containing ashless dispersant (i) with at least one dibasic acylating agent and (ii) with at least one boron compound, said reactions (i) and (ii) being conducted concurrently or sequentially in any order such that the initial ashless dispersant is chemically modified via acylation in (i) and by boronation in (ii).

IPC 1-7

C10M 133/56

IPC 8 full level

C10M 159/12 (2006.01); **C10L 1/2383** (2006.01); **C10M 125/26** (2006.01); **C10M 129/34** (2006.01); **C10M 129/36** (2006.01); **C10M 133/16** (2006.01); **C10M 133/52** (2006.01); **C10M 133/56** (2006.01); **C10M 133/58** (2006.01); **C10M 139/00** (2006.01); **C10M 159/16** (2006.01); C10N 30/04 (2006.01); C10N 60/14 (2006.01); C10N 70/00 (2006.01)

CPC (source: EP)

C10L 1/2383 (2013.01); **C10M 133/52** (2013.01); **C10M 133/56** (2013.01); **C10M 159/16** (2013.01)

Citation (opposition)

Opponent :

- JP S51130408 A 19761112 - KARONAITO KAGAKU KK
- EP 0451380 A1 19911016 - ETHYL PETROLEUM ADDITIVES LTD [GB]
- EP 0132383 A2 19850130 - STANDARD OIL CO [US]
- US 3367943 A 19680206 - MILLER HAROLD N, et al
- EP 0136185 A2 19850403 - COOPER EDWIN INC [US]

Cited by

CN1081229C; EP0733697A1; EP0663436A1; FR2747687A1; BE1011443A4; FR2741890A1; BE1010192A3; GB2299088B; EP0705322A4; CN111690081A; US8901050B2; US6906191B2; EP1985685A1; EP0744393A1; US8993496B2; WO0148055A1; US9150811B2; EP1985686A1; EP1078977A1; US8716202B2

Designated contracting state (EPC)

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DOCDB simple family (publication)

EP 0460309 A1 19911211; **EP 0460309 B1 19950823**; **EP 0460309 B2 20000705**; AU 645809 B2 19940127; AU 7813491 A 19911212; CA 2043998 A1 19911207; CA 2043998 C 20030812; DE 69021872 D1 19950928; DE 69021872 T2 19960118; DE 69021872 T3 20030213; JP 2966586 B2 19991025; JP H04227995 A 19920818; ZA 914157 B 19930224

DOCDB simple family (application)

EP 90306128 A 19900606; AU 7813491 A 19910603; CA 2043998 A 19910606; DE 69021872 T 19900606; JP 15991991 A 19910605; ZA 914157 A 19910530