

Title (en)
MULTIFUNCTIONAL ADDITIVES HAVING AN IMPROVED FLOW CAPABILITY

Title (de)
MULTIFUNKTIONELLE KÄLTEADDITIVE FÜR MITTELDESTILLATE MIT VERBESSERTER FLIESSFÄHIGKEIT

Title (fr)
ADDITIFS POLYFONCTIONNELS AYANT UNE MEILLEURE APTITUDE À L'ÉCOULEMENT

Publication
EP 2516604 B1 20131023 (DE)

Application
EP 10787326 A 20101207

Priority
• DE 102009060371 A 20091224
• EP 2010007407 W 20101207

Abstract (en)
[origin: WO2011076338A2] The present invention relates to cooling additives for middle distillates, containing A) at least one comb polymer carrying hydroxyl groups, which can be produced by polycondensation of a polyol that contains two primary OH groups and at least one secondary OH group with a dicarboxylic acid or the anhydride or ester thereof, which carries a C16-C40 alkyl radical or a C16-C40 alkenyl radical, characterized in that the OH number of the comb polymer is at least 40 mg KOH/g, B) at least one copolymer of ethylene and of at least one ethylenically unsaturated ester, and C) at least one organic solvent.

IPC 8 full level
C10L 10/16 (2006.01); **C10L 1/16** (2006.01); **C10L 1/196** (2006.01); **C10L 1/197** (2006.01); **C10L 1/198** (2006.01); **C10L 1/224** (2006.01); **C10L 10/14** (2006.01)

CPC (source: EP KR US)
C10L 1/143 (2013.01 - EP US); **C10L 1/196** (2013.01 - KR); **C10L 1/197** (2013.01 - KR); **C10L 10/14** (2013.01 - EP KR US); **C10L 10/16** (2013.01 - EP KR US); **C10L 1/1608** (2013.01 - EP US); **C10L 1/1616** (2013.01 - EP US); **C10L 1/1641** (2013.01 - EP US); **C10L 1/1963** (2013.01 - EP US); **C10L 1/1973** (2013.01 - EP US); **C10L 1/1981** (2013.01 - EP US); **C10L 1/1983** (2013.01 - EP US); **C10L 1/1985** (2013.01 - EP US); **C10L 1/224** (2013.01 - EP US)

Designated contracting state (EPC)
DE FR GB IT NL

DOCDB simple family (publication)
WO 2011076338 A2 20110630; WO 2011076338 A3 20110901; CA 2785465 A1 20110630; CN 102666814 A 20120912; DE 102009060371 A1 20110630; EP 2516604 A2 20121031; EP 2516604 B1 20131023; JP 2013515793 A 20130509; KR 20120123344 A 20121108; RU 2012131477 A 20140127; US 2013000184 A1 20130103

DOCDB simple family (application)
EP 2010007407 W 20101207; CA 2785465 A 20101207; CN 201080053653 A 20101207; DE 102009060371 A 20091224; EP 10787326 A 20101207; JP 2012545127 A 20101207; KR 20127018911 A 20101207; RU 2012131477 A 20101207; US 201013515376 A 20101207