

Title (en)

Cold flow improver for fuel oils of animal or vegetable origin

Title (de)

Kaltfliessverbesserer für Brennstofföle pflanzlichen oder tierischen Ursprungs

Title (fr)

Agent d'amélioration de l'écoulement à froid pour huiles combustibles d'origine végétale ou animale

Publication

EP 1526167 B1 20150520 (DE)

Application

EP 04024234 A 20041012

Priority

DE 10349851 A 20031025

Abstract (en)

[origin: EP1526167A2] New additive comprises a copolymer (I) of ethylene and 8-21 mole% of an acrylic or vinyl ester with a C1-C18 alkyl group and a comb polymer (II) of an olefin (IIa) with a C8-C18 alkyl group attached to the double bond and an ethylenically unsaturated dicarboxylic acid amide or imide (IIb) with a C8-C16 alkyl group attached to the amide or imide group, where the sum Q of the molar average alkyl chain lengths in (IIa) and (IIb) is 23-27. An independent claim is also included for a fuel oil composition comprising a fuel oil of animal or vegetable origin and an additive as above.

IPC 8 full level

C10L 1/14 (2006.01); **C10L 1/192** (2006.01); **C08F 8/32** (2006.01); **C08F 210/02** (2006.01); **C08F 218/04** (2006.01); **C08F 220/10** (2006.01); **C10L 1/02** (2006.01); **C10L 1/18** (2006.01); **C10L 1/195** (2006.01); **C10L 1/196** (2006.01); **C10L 1/197** (2006.01); **C10L 1/22** (2006.01); **C10L 1/234** (2006.01); **C10L 1/236** (2006.01); **C10L 10/14** (2006.01)

CPC (source: EP KR US)

C10L 1/143 (2013.01 - EP US); **C10L 1/146** (2013.01 - EP US); **C10L 1/1955** (2013.01 - EP US); **C10L 1/1963** (2013.01 - EP US); **C10L 1/1973** (2013.01 - EP US); **C10L 1/22** (2013.01 - KR); **C10L 1/2364** (2013.01 - EP US); **C10L 1/19** (2013.01 - EP US); **C10L 1/221** (2013.01 - EP US); **C10L 1/224** (2013.01 - EP US)

Cited by

EP1717296A1; EP2196520A1; EP1935967A1; EP1857528A1; EP3363879A3; EP1857529A1; EP2535396A4; GB2429210A; GB2429210B; US8187345B2; EP3913035A1; WO2007147753A3; US9012583B2; WO2018054892A1; WO2024037904A1; WO2005097953A1; EP1541662B1; WO2016083130A1; US10557096B2; US7942941B2; US9663740B2; WO2024115211A1; US9133409B2; US9212332B2; WO2017202642A1; US11060044B2

Designated contracting state (EPC)

CZ DE FR GB HU NL PL SE SK

DOCDB simple family (publication)

EP 1526167 A2 20050427; **EP 1526167 A3 20050511**; **EP 1526167 B1 20150520**; **EP 1526167 B2 20190130**; CA 2486035 A1 20050425; CA 2486035 C 20120313; DE 10349851 A1 20050616; DE 10349851 B4 20080619; HU E025057 T2 20160128; JP 2005126720 A 20050519; JP 4859361 B2 20120125; KR 101139274 B1 20120426; KR 20050039682 A 20050429; PL 1526167 T3 20151030; PL 1526167 T5 20190930; US 2005113266 A1 20050526; US 7500996 B2 20090310

DOCDB simple family (application)

EP 04024234 A 20041012; CA 2486035 A 20041022; DE 10349851 A 20031025; HU E04024234 A 20041012; JP 2004308229 A 20041022; KR 20040085342 A 20041025; PL 04024234 T 20041012; US 97281204 A 20041025