

Title (en)

ADDITIVES TO REDUCE METAL PICK-UP IN FUELS

Title (de)

ADDITIVE ZUR VERRINGERUNG DER METALLAUFNAHME IN KRAFTSTOFFEN

Title (fr)

ADDITIFS POUR CARBURANTS PERMETTANT DE RÉDUIRE L'ARRACHEMENT DE MÉTAL

Publication

**EP 2385977 B1 20160824 (EN)**

Application

**EP 09737254 A 20091001**

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Abstract (en)

[origin: WO2010042378A1] The present invention relates to fuel additives, fuel additive compositions and fuel compositions, as well as a method for fueling an internal combustion engine, providing reduced metal pick-up by fuels where the compositions of the present invention contain a hydrocarbon substituted with at least two carboxy functionalities in the form of acids or at least one carboxy functionality in the form of an anhydride.

IPC 8 full level

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Citation (opposition)

Opponent : Innospec Limited

- GB 1439899 A 19760616 - WESTVACO CORP
- US 4440545 A 19840403 - WEIDIG CHARLES F [US]
- US 3447918 A 19690603 - AMICK JAMES W
- US 3282836 A 19661101 - MILLER JAMES R, et al
- US 4531948 A 19850730 - KNAPP GORDON G [US]
- US 2334158 A 19431109 - VON FUCHS GEORGE HUGO, et al
- WO 2004024850 A1 20040325 - OCTEL STARREON LLC [US], et al
- WO 2007062304 A2 20070531 - NOVUS INT INC [US], et al
- US 4214876 A 19800729 - GARTH BRUCE H [US], et al
- EP 1884556 A2 20080206 - INFINEUM INT LTD [GB]
- US 4521219 A 19850604 - PERILSTEIN WARREN L [US]
- US 2008244966 A1 20081009 - ANSELL CLAIRE [GB], et al
- WO 2006063770 A1 20060622 - BASF AG [DE], et al
- US 2632695 A 19530324 - LANDIS PHILLIP S, et al
- EP 0280417 A1 19880831 - PETROLITE CORP [US]
- JP S6018584 A 19850130 - SANYO CHEMICAL IND LTD
- US 5679116 A 19971021 - CUNNINGHAM LAWRENCE J [US], et al
- US 2008307698 A1 20081218 - BARTON WILLIAM [GB], et al
- US 5851966 A 19981222 - BAKER MARK R [US], et al
- US 3912764 A 19751014 - PALMER JR JOHN F
- US 5254138 A 19931019 - KUREK PAUL R [US]
- US 7951211 B2 20110531 - BARTON WILLIAM [GB], et al
- US 2008060608 A1 20080313 - BREAKSPEAR ANGELA PRISCILLA [GB], et al
- GB 1492377 A 19771116 - BIO MEDICAL SCIENCES INC
- WO 2006014461 A2 20060209 - CHEVRON USA INC [US], et al
- WO 2006135881 A2 20061221 - LUBRIZOL CORP [US], et al
- EP 0299119 A1 19890118 - PETROLITE CORP [US]

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