

Title (en)
USE OF ADDITIVES IN FUEL COMPOSITIONS

Title (de)
VERWENDUNG VON ADDITIVEN IN KRAFTSTOFFZUSAMMENSETZUNGEN

Title (fr)
UTILISATION D'ADDITIFS DANS DES COMPOSITIONS DE CARBURANT

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Application
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Abstract (en)
[origin: WO2013017886A1] A diesel fuel composition comprising a first additive (i) comprising a quaternary ammonium salt and a second additive (ii) comprising a Mannich reaction product; wherein the quaternary ammonium salt additive (i) is formed by the reaction of a quaternising agent which is not an ester and a compound formed by the reaction of a hydrocarbyl-substituted acylating agent and an amine of formula (B1) or (B2): wherein R2 and R3 are the same or different alkyl, alkenyl or aryl groups having from 1 to 22 carbon atoms; X is a bond or alkylene group having from 1 to 20 carbon atoms; n is from 0 to 20; m is from 1 to 5; and R4 is hydrogen or a C1 to C22 alkyl group; and wherein the Mannich reaction product additive (ii) is the product of a Mannich reaction between: (d) an aldehyde; (e) an amine; and (f) a substituted phenol; wherein the phenol is substituted with at least one branched hydrocarbyl group having a molecular weight of between 200 and 3000.

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