

Title (en)

FUEL ADDITIVE FOR IMPROVED PERFORMANCE IN DIRECT FUEL INJECTED ENGINES

Title (de)

KRAFTSTOFFADDITIV FÜR VERBESSERTE LEISTUNG IN MOTOREN MIT DIREKTER KRAFTSTOFFEINSPRITZUNG

Title (fr)

ADDITIF POUR CARBURANT POUR UN MEILLEUR RENDEMENT DES MOTEURS À INJECTION DIRECTE DU CARBURANT

Publication

**EP 2776691 A4 20150708 (EN)**

Application

**EP 12847646 A 20121102**

Priority

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- US 2012063189 W 20121102

Abstract (en)

[origin: WO2013070503A1] A fuel composition for a direct fuel injected gasoline engine comprising, a method for improving performance of fuel injectors and a method for cleaning fuel injectors for an internal combustion gasoline engine. The fuel composition includes a major amount of fuel and a minor, effective amount of a quaternary ammonium salt having a thermogravimetric analysis (TGA) weight loss of greater than 50 wt.% at 350° C. The amount of quaternary ammonium salt present in the fuel is sufficient to improve performance of the direct fuel injected engine having combusted the composition compared to the performance of such engine having combusted a fuel composition that does not contain the quaternary ammonium salt.

IPC 8 full level

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Citation (search report)

- [X] US 4168268 A 19790918 - DATTA RATHIN, et al
- [X] JP 2002317123 A 20021031 - DAINIPPON INK & CHEMICALS
- [I] EP 1518918 A1 20050330 - AFTON CHEMICAL CORP [US]
- [A] WO 03076554 A1 20030918 - SHELL INT RESEARCH [NL], et al
- [A] EP 1293553 A2 20030319 - ETHYL CORP [US]
- See references of WO 2013070503A1

Designated contracting state (EPC)

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