

Title (en)

USE OF A FUEL COMPOSITION COMPRISING THREE ADDITIVES FOR CLEANING THE INTERNAL PARTS OF PETROL ENGINES

Title (de)

VERWENDUNG EINER KRAFTSTOFFZUSAMMENSETZUNG MIT DREI ADDITIVEN ZUR REINIGUNG DER INNEREN TEILE VON BENZINMOTOREN

Title (fr)

UTILISATION D'UNE COMPOSITION DE CARBURANT COMPRENANT 3 ADDITIFS POUR NETTOYER LES PARTIES INTERNES DES MOTEURS ESSENCE

Publication

**EP 4157972 A1 20230405 (FR)**

Application

**EP 21734411 A 20210528**

Priority

- FR 2005699 A 20200529
- FR 2021050971 W 20210528

Abstract (en)

[origin: WO2021240117A1] The present invention relates to the use, for reducing deposits in the internal parts of a spark ignition engine, of a fuel composition comprising at least three additives: a quaternary ammonium salt, a non-quaternary polyisobutylene succinimide and a Mannich base which is different from the other additives. The composition is such that the mass ratio of the quantity of the first additive to the quantity of the second additive is in the range from 0.2: 1 to 2.5: 1.

IPC 8 full level

**C10L 1/222** (2006.01); **C10L 1/224** (2006.01); **C10L 1/23** (2006.01); **C10L 1/238** (2006.01); **C10L 1/2383** (2006.01); **C10L 1/2387** (2006.01); **C10L 10/04** (2006.01); **C10L 10/06** (2006.01)

CPC (source: EP US)

**C10L 1/23** (2013.01 - EP); **C10L 1/236** (2013.01 - US); **C10L 10/04** (2013.01 - EP); **C10L 10/06** (2013.01 - EP US); **C10L 1/238** (2013.01 - EP); **C10L 1/2383** (2013.01 - EP); **C10L 1/2387** (2013.01 - EP); **C10L 2200/0423** (2013.01 - US); **C10L 2230/22** (2013.01 - US); **C10L 2250/04** (2013.01 - US); **C10L 2270/023** (2013.01 - EP)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

**FR 3110914 A1 20211203**; **FR 3110914 B1 20231229**; CN 115667467 A 20230131; EP 4157972 A1 20230405; US 2023212473 A1 20230706; WO 2021240117 A1 20211202

DOCDB simple family (application)

**FR 2005699 A 20200529**; CN 202180038622 A 20210528; EP 21734411 A 20210528; FR 2021050971 W 20210528; US 202117928141 A 20210528