

Title (en)

Mixing-assisted oxidative desulfurization method of diesel fuel and device thereof

Title (de)

Mischungsunterstütztes oxidatives Entschwefelungsverfahren von Dieselmotoren und Vorrichtung dafür

Title (fr)

Procédé de désulfuration oxydative assisté par mélange de carburant diesel et dispositif associé

Publication

EP 2410038 A3 20120523 (EN)

Application

EP 11161598 A 20110408

Priority

US 84025910 A 20100720

Abstract (en)

[origin: EP2410038A2] Mixing-assisted oxidative desulfurization method of diesel fuel and the continuous desulfurization device thereof is disclosed herein. Because of the dangers of sulfur content in gasoline and other petroleum products, many governments have required the sulfur content of these petroleum products to be reduced so as to safeguard public safety and health. Desulfurization of fossil fuels is provided by the combination of fossil fuels with an aqueous mixture of ozone or hydrogen peroxide and a Tetraoctylphosphonium salt phase transfer catalyst, and the mixture is then reactive mixed to form oxidize sulfur compounds in the fuel. The polar oxidized sulfones species are removed via another mixing step. The desulfurization device (10) can be in the form of a portable device which provides for continuous mixing-assisted desulfurization for the selective removal of sulfur containing compounds from fossil fuels such as diesel fuel or other hydrocarbons.

IPC 8 full level

C10G 27/04 (2006.01); **C10G 27/12** (2006.01); **C10G 27/14** (2006.01)

CPC (source: EP US)

C10G 21/00 (2013.01 - EP US); **C10G 21/28** (2013.01 - EP US); **C10G 27/04** (2013.01 - EP US); **C10G 27/12** (2013.01 - EP US); **C10G 27/14** (2013.01 - EP US); **C10G 2300/1055** (2013.01 - EP US); **C10G 2300/202** (2013.01 - EP US); **C10G 2300/4081** (2013.01 - EP US); **C10G 2300/44** (2013.01 - EP US)

Citation (search report)

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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

DOCDB simple family (publication)

EP 2410038 A2 20120125; EP 2410038 A3 20120523; CA 2744257 A1 20120120; CN 102337149 A 20120201; CN 201952397 U 20110831; JP 2012025933 A 20120209; TW 201204825 A 20120201; TW I417375 B 20131201; US 2012018350 A1 20120126

DOCDB simple family (application)

EP 11161598 A 20110408; CA 2744257 A 20110623; CN 201010601084 A 20101223; CN 201020675374 U 20101223; JP 2011097457 A 20110425; TW 99136872 A 20101028; US 84025910 A 20100720