Title (en)

SYNTHETIC FUELS WITH ENHANCED MECHANICAL ENERGY OUTPUT

Title (de)

SYNTHETISCHE BRENNSTOFFE MIT ERHÖHTER GEWINNUNG MECHANISCHER ENERGIE

Title (fr)

CARBURANTS SYNTHÉTIQUES À PRODUCTION RENFORCÉE D'ÉNERGIE MÉCANIQUE

Publication

EP 2531577 A4 20130724 (EN)

Application

EP 11737868 A 20110201

Priority

- US 65806210 A 20100201
- US 80209310 A 20100528
- US 2011023388 W 20110201

Abstract (en)

[origin: WO2011094751A2] Fuel blends and processes for producing a fuel unit blend to replace gasoline or supplement the apparent energy density of diesel or other fuel. The fuel unit blend comprises a base combustive fuel component that produces excess heat, which heat activates and sustains reactions of secondary detonative fuel components. The fuel mixture including a detonative fuel component blended with a stabilizing fuel component is dynamically stable, allowing the detonative fuel component to survive the combustion of the base combustive fuel component. The fuel blend produces first deflagrative combustion and then detonative or explosive waves in an internal combustion engine so as to produce maximum effective torque on the engines piston. A secondary effect is provided when the exhaust gas is cooled, increasing the Carnot thermal efficiency of the engine. The fuel blends may be diluted with a base combustive fuel to form a synthetic fuel for use within an internal combustion engine. The synthetic fuels also have application in mining, demolition, and military applications as explosive trains including a primary fuel explosive and a secondary explosive comprising the core polar material. Detonation or explosion of the secondary accelerates the combustion products of the primary fuel.

IPC 8 full level

C10L 1/02 (2006.01); **C10L 1/18** (2006.01); **C10L 1/22** (2006.01); **C10L 10/00** (2006.01)

CPC (source: EP US)

C10L 1/02 (2013.01 - EP US); **C10L 1/14** (2013.01 - EP US); C10L 1/1608 (2013.01 - EP US); C10L 1/1616 (2013.01 - EP US); C10L 1/1822 (2013.01 - EP US); C10L 1/1824 (2013.01 - EP US); C10L 1/1832 (2013.01 - EP US); C10L 1/1857 (2013.01 - EP US); C10L 1/19 (2013.01 - EP US); C10L 1/224 (2013.01 - EP US); C10L 1/23 (2013.01 - EP US); C10L 1/231 (2013.01 - EP US); C10L 2230/22 (2013.01 - EP US); C10L 2270/02 (2013.01 - EP US)

Citation (search report)

- [XI] US 5141524 A 19920825 - GONZALEZ FRANK [US]
- [I] US 5433756 A 19950718 - GONZALEZ FRANK [US]
- [X] DATABASE WPI Week 200868, Derwent World Patents Index; AN 2008-L53265, XP002697832
- [X] DATABASE WPI Week 200868, Derwent World Patents Index; AN 2008-L53264, XP002697833

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DOCDB simple family (publication)

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US 2011023388 W 20110201; CA 2789354 A 20110201; CN 201180013037 A 20110201; CO 12148515 A 20120830; EP 11737868 A 20110201; US 201113576262 A 20110201; US 80209310 A 20100528