

## Title (en)

Use of 1,1-dialkoxylanes to increase the anti-knock rate of motor fuel

## Title (de)

Verwendung von 1,1-Dialkoxyalkanen zur Erhöhung der Klopfestigkeit von Motorenbenzin

## Title (fr)

Utilisation de 1,1-dialkoxyalkanes pour l'augmentation du pouvoir antidétonant de l'essence

## Publication

**EP 2514804 A1 20121024 (DE)**

## Application

**EP 11163065 A 20110419**

## Priority

EP 11163065 A 20110419

## Abstract (en)

Use of one or more 1,1-dialkoxyalkane compound (I) for increasing the antiknock properties of gasoline with a boiling point of 75-120[deg] C without adding further antiknock compounds, is claimed. Use of one or more 1,1-dialkoxyalkane compound of formula (R 1>O-CH(R 2>)-OR 1>) (I) for increasing the antiknock properties of gasoline with a boiling point of 75-120[deg] C without adding further antiknock compounds, is claimed. R 1> : CH 3, C 2H 5, C 3H 7, iso-C 3H 7(all preferred), C 4H 9or iso-C 4H 9; and R 2> : H, CH 3(both preferred), C 2H 5, C 3H 7or iso-C 3H 7. An independent claim is included for a motor gasoline comprising the low-boiling gasoline, (I) and additives, where 1-4C-alcohol or ketal compounds of formula (R3aO-C(R1a)(R2a)-O-R4a) are excluded. R1a : CH 3, C 2H 5or C 3H 7; R2a : CH 3or C 2H 5; and R3a, R4a : CH 3, C 2H 5, C 3H 7or C 4H 9.

## Abstract (de)

Die vorliegende Erfindung betrifft die Verwendung eines oder mehrerer der 1,1-Dialkoxyalkane der allgemeinen Formel I #####R 1 O-CH(R 2 )-OR 1 , #####(I) in der unabhängig voneinander R 1 CH 3 , C 2 H 5 , C 3 H 7 , i-C 3 H 7 , C 4 H 9 oder i-C 4 H 9 ; R 2 H, CH 3 , C 2 H 5 , C 3 H 7 oder i-C 3 H 7 und darstellen zur Erhöhung der Klopfestigkeit von niedrig siedendem Benzin mit einem Siedebeginn (SB) von 75°C bis 120°C, wobei neben den 1,1-Dialkoxyalkanen der allgemeinen Formel I keine weiteren Antiklopfmittel zugesetzt werden.

## IPC 8 full level

**C10L 1/185** (2006.01); **C10L 10/10** (2006.01)

## CPC (source: EP US)

**C10L 1/023** (2013.01 - EP US); **C10L 1/185** (2013.01 - EP US); **C10L 1/1852** (2013.01 - EP US); **C10L 10/10** (2013.01 - EP US); **C10G 2300/305** (2013.01 - EP US); **C10L 2200/0423** (2013.01 - EP US)

## Citation (applicant)

- US 6514299 B1 20030204 - BEAN J DAVID [US], et al
- DE 3133899 A1 19820408 - LEUNA WERKE VEB [DD]

## Citation (search report)

- [I] US 3869262 A 19750304 - MAYERHOFFER HERBERT, et al
- [A] US 1582420 A 19260427 - YASUJURO NIKAI
- [A] US 4374648 A 19830222 - SWEENEY W ALAN
- [A] US 2237660 A 19410408 - CARLETON ELLIS
- [A] SUFLITA J M ET AL: "ANAEROBIC BIODEGRADATION OF KNOWN AND POTENTIAL GASOLINE OXYGENATES IN THE TERRESTRIAL SUBSURFACE", ENVIRONMENTAL SCIENCE AND TECHNOLOGY, AMERICAN CHEMICAL SOCIETY. EASTON, PA, US, vol. 27, no. 5, 1 May 1993 (1993-05-01), pages 976 - 978, XP000361027, ISSN: 0013-936X, DOI: 10.1021/ES00042A022
- [A] ANONYMOUS: "MATERIAL SAFETY DATA SHEET METHYLAL", 12 February 2007 (2007-02-12), XP055000727, Retrieved from the Internet <URL:http://www.viromet.ro/files/fise/en/metilal\_.pdf> [retrieved on 20110615]

## 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 2514804 A1 20121024**; CA 2833473 A1 20121126; CN 103597061 A 20140219; EP 2699656 A1 20140226; RU 2013151748 A 20150527; RU 2567541 C2 20151110; US 2014123550 A1 20140508; US 9005316 B2 20150414; WO 2012143465 A1 20121026

## DOCDB simple family (application)

**EP 11163065 A 20110419**; CA 2833473 A 20120419; CN 201280019111 A 20120419; EP 12720823 A 20120419; EP 2012057199 W 20120419; RU 2013151748 A 20120419; US 201214112873 A 20120419