

Title (en)

Use of oily liquids to improve the oxidation stability of fuel oils

Title (de)

Verwendung von öligen Flüssigkeiten zur Verbesserung der Oxidationsstabilität der Brennstofföle

Title (fr)

Utilisation de liquides huileux contre l'oxydation des huiles combustibles

Publication

EP 1380633 A1 20040114 (DE)

Application

EP 03013092 A 20030611

Priority

- DE 10252972 A 20021114
- DE 10230771 A 20020709

Abstract (en)

Oily liquids comprise: (a) an ester of a C1-C5 monohydric alcohol with fatty acids containing 8-30 carbon atoms, at least 50% of the fatty acids having at least one double bond; and (b) a resin produced by condensing an aldehyde or ketone with an alkylphenol having at least one alkyl or alkenyl group of 6-24 carbon atoms to give a product comprising 2-50 alkylphenol units. An Independent claim is also included for fuel oils with a sulfur content of no more than 0.035 wt.% containing 0.001-0.5 wt.% of a composition as above.

Abstract (de)

Gegenstand der Erfindung sind ölige Flüssigkeiten, enthaltend A) mindestens einen Ester aus Fettsäuren, deren Kohlenstoffkettenlängen zwischen 8 und 30 Kohlenstoffatomen liegen, und einem einwertigen C1-C5-Alkohol, wobei mindestens 50% der Fettsäurereste mindestens eine Doppelbindung enthalten, und B) mindestens ein Alkylphenol-Aldehydharz, erhältlich durch die Kondensation von (i) mindestens einem Alkylphenol mit mindestens einem C6-C24-Alkyl oder C6-C24-Alkenylrest und (ii) mindestens einem Aldehyd oder Keton, wobei der Kondensationsgrad zwischen 2 und 50 Alkylphenoleinheiten beträgt.

IPC 1-7

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IPC 8 full level

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CPC (source: EP US)

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Citation (applicant)

- EP 0635558 A1 19950125 - EURON SPA [IT]
- EP 0935645 A1 19990818 - INFINEUM USA LP [US]
- WO 9961562 A1 19991202 - INFINEUM USA LP [US], et al
- DE 10111857 A1 20020912 - RADIG WOLFRAM [DE]
- US 4211534 A 19800708 - FELDMAN NICHOLAS [US]
- EP 0154177 A2 19850911 - BAYER AG [DE]
- EP 0413279 A1 19910220 - HOECHST AG [DE]
- EP 0606055 A2 19940713 - HOECHST AG [DE]
- EP 0153176 A2 19850828 - EXXON RESEARCH ENGINEERING CO [US]
- EP 0320766 A2 19890621 - HOECHST AG [DE]
- "Römpp Chemie Lexikon", 1988, THIEME VERLAG, pages: 3351FF
- N.A. PLATE; V.P. SHIBAIEV, J. POLYM. SCI. MACROMOLECULAR REVIEWS, vol. 8, 1974, pages 117 FF

Citation (search report)

- [X] WO 0138461 A1 20010531 - ASS OCTEL [GB], et al
- [DX] WO 9961562 A1 19991202 - INFINEUM USA LP [US], et al
- [X] WO 0179397 A2 20011025 - INFINEUM INT LTD [GB], et al
- [A] EP 1116780 A1 20010718 - CLARIANT GMBH [DE]
- [A] US 4769178 A 19880906 - KENMOCHI KAZUHIRO [JP], et al

Cited by

DE102005045134A1; EP1767610A3; DE102005045134B4; US8298402B2

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