

Title (en)
Marine engine lubrication

Title (de)
Schmierung für einen Schiffsmotor

Title (fr)
Lubrification de moteur marin

Publication
EP 2735603 A1 20140528 (EN)

Application
EP 13188944 A 20131016

Priority
• EP 12193607 A 20121121
• EP 13188944 A 20131016

Abstract (en)
Trunk piston marine engine lubrication comprising a major amount of (A) an oil of lubricating viscosity that comprises an oil-soluble ester basestock, or that comprises greater than 0.1 to less than 90 mass % of an oil-soluble ester basestock and, as 50 mass % or more of the remainder of the oil of lubricating viscosity, a high saturates basestock; (B) a minor amount of a metal alkyl salicylate detergent; and (C) greater than 0.1 to less than 10 mass %, of an oil-soluble polyalkenyl-substituted carboxylic acid anhydride, wherein the or at least one polyalkenyl group is derived from a polyalkene having a number average molecular weight of from 200 to 3,000. Asphaltene precipitation in the lubricant composition, caused by the presence of contaminant heavy fuel oil, is prevented or inhibited.

IPC 8 full level
C10M 169/04 (2006.01); **C10N 30/04** (2006.01); **C10N 40/25** (2006.01)

CPC (source: EP KR US)
C10M 105/32 (2013.01 - KR); **C10M 129/54** (2013.01 - US); **C10M 129/72** (2013.01 - US); **C10M 169/04** (2013.01 - KR); **C10M 169/045** (2013.01 - EP US); **C10M 2203/1025** (2013.01 - EP US); **C10M 2203/108** (2013.01 - EP US); **C10M 2205/0285** (2013.01 - EP US); **C10M 2207/127** (2013.01 - EP US); **C10M 2207/129** (2013.01 - EP US); **C10M 2207/262** (2013.01 - EP US); **C10M 2207/2805** (2013.01 - EP US); **C10M 2207/2835** (2013.01 - EP US); **C10N 2020/02** (2013.01 - EP US); **C10N 2030/04** (2013.01 - EP US); **C10N 2030/78** (2020.05 - EP US); **C10N 2040/252** (2020.05 - EP US)

Citation (applicant)
• WO 2010115594 A1 20101014 - INFINEUM INT LTD [GB], et al
• WO 2010115595 A1 20101014 - INFINEUM INT LTD [GB], et al
• US 2011319304 A1 20111229 - VAN HOUTEN WILHELMUS PETRUS ANTONIE [NL]
• US 6462001 B1 20021008 - KENBEEK DIRK [NL], et al
• US 2007027057 A1 20070201 - LE COENT JEAN-LOUIS [FR], et al
• US 5498809 A 19960312 - EMERT JACOB [US], et al
• US 5663130 A 19970902 - EMERT JACOB [US], et al
• US 5705577 A 19980106 - ROSSI ALBERT [US], et al
• US 5814715 A 19980929 - CHEN FRANK JOUNG-YEI [US], et al
• US 6022929 A 20000208 - CHEN FRANK JOUNG-YEI [US], et al
• US 6030930 A 20000229 - EMERT JACOB [US], et al
• US 4952739 A 19900828 - CHEN FRANK J [US]
• US 4152499 A 19790501 - BOERZEL PAUL [DE], et al
• US 3087936 A 19630430 - LE SUER WILLIAM M
• US 3172892 A 19650309
• US 3215707 A 19651102 - RENSE RUDOLPH J
• US 3231587 A 19660125 - RENSE RUDOLPH J
• US 3272746 A 19660913 - LE SUER WILLIAM M, et al
• US 3275554 A 19660927 - HENDRIK WAGENAAR ADRIAAN
• US 3381022 A 19680430 - LE SUER WILLIAM M
• US 3442808 A 19690506 - TRAISE THORNTON P, et al
• US 3565804 A 19710223 - HONNEN LEWIS R, et al
• US 3912764 A 19751014 - PALMER JR JOHN F
• US 4110349 A 19780829 - COHEN JEROME MARTIN
• US 4234435 A 19801118 - MEINHARDT NORMAN A, et al
• US 5777025 A 19980707 - SPENCER JEREMY R [GB], et al
• US 5891953 A 19990406 - SPENCER JEREMY R [GB], et al
• EP 0382450 B1 19950628 - EXXON CHEMICAL PATENTS INC [US]
• CA 1335895 C 19950613 - EXXON CHEMICAL PATENTS INC [US]
• GB 1440219 A 19760623 - COOPER LTD ETHYL
• "Engine Oil Licensing and Certification System", December 1996
• IH INTERNATIONAL SYMPOSIUM ON MARINE ENGINEERING, 24 October 2005 (2005-10-24)
• "The Benefits of Salicylate Detergents in TPEO Applications with a Variety of Base Stocks", CONFERENCE PROCEEDINGS. FURTHER DETAILS WERE DISCLOSED AT THE CIMAC CONGRESS, 21 May 2007 (2007-05-21)
• "Meeting the Challenge of New Base Fluids for the Lubrication of Medium Speed Marine Engines - An Additive Approach", CONGRESS PROCEEDINGS

Citation (search report)
• [XDY] WO 2010115594 A1 20101014 - INFINEUM INT LTD [GB], et al
• [YD] US 2011319304 A1 20111229 - VAN HOUTEN WILHELMUS PETRUS ANTONIE [NL]
• [X] US 2004121918 A1 20040624 - REA SALVATORE [US], et al

Cited by
EP3029133A1

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 2735603 A1 20140528; EP 2735603 B1 20160608; AU 2013260695 A1 20140605; AU 2013260695 B2 20170302; CA 2833977 A1 20140521;
CA 2833977 C 20200421; CN 103834458 A 20140604; DK 2735603 T3 20160829; ES 2586531 T3 20161017; JP 2014101513 A 20140605;
JP 6279888 B2 20180214; KR 102160538 B1 20200928; KR 20140065350 A 20140529; SG 2013085915 A 20140627;
US 2014165943 A1 20140619

DOCDB simple family (application)

EP 13188944 A 20131016; AU 2013260695 A 20131121; CA 2833977 A 20131121; CN 201310593726 A 20131121; DK 13188944 T 20131016;
ES 13188944 T 20131016; JP 2013239516 A 20131120; KR 20130141279 A 20131120; SG 2013085915 A 20131120;
US 201314085853 A 20131121