

Title (en)
FUEL COMPOSITION

Title (de)
KRAFTSTOFFZUSAMMENSETZUNG

Title (fr)
COMPOSITION DE CARBURANT

Publication
EP 2643384 A1 20131002 (EN)

Application
EP 11791398 A 20111121

Priority
• US 41676710 P 20101124
• US 2011061620 W 20111121

Abstract (en)
[origin: WO2012071313A1] The invention relates to polyester quaternary ammonium salts, including amine, amide, and ester salts, processes for making them, and their use as additives, including their use in fuels, such as diesel fuel and fuel oils. The invention particularly relates to the use of polyester quaternary ammonium salts as detergents in fuels and the methods of making them.

IPC 8 full level
C08G 63/91 (2006.01); **C08G 63/685** (2006.01); **C08G 69/44** (2006.01); **C08L 77/12** (2006.01); **C10L 1/22** (2006.01); **C10L 1/222** (2006.01); **C10L 1/224** (2006.01); **C10L 1/238** (2006.01); **C10L 1/2383** (2006.01); **C10L 1/26** (2006.01); **C10L 10/18** (2006.01)

CPC (source: EP KR US)
C08G 63/6852 (2013.01 - EP US); **C08G 63/91** (2013.01 - KR); **C08G 63/912** (2013.01 - EP US); **C08G 69/44** (2013.01 - KR); **C08L 67/00** (2013.01 - KR); **C08L 77/12** (2013.01 - EP US); **C10L 1/22** (2013.01 - KR); **C10L 1/2222** (2013.01 - EP US); **C10L 1/224** (2013.01 - EP US); **C10L 1/238** (2013.01 - EP US); **C10L 1/2383** (2013.01 - EP US); **C10L 10/18** (2013.01 - EP US); **C10L 1/265** (2013.01 - EP US)

Citation (search report)
See references of WO 2012071313A1

Citation (examination)
• WO 2011149799 A1 20111201 - LUBRIZOL CORP [US], et al
• US 2010024286 A1 20100204 - SMITH SUSAN JANE [GB], et al

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

DOCDB simple family (publication)
WO 2012071313 A1 20120531; AU 2011332104 A1 20130613; AU 2011332104 B2 20160204; BR 112013012792 A2 20160913; CA 2818753 A1 20120531; CN 103328537 A 20130925; CN 103328537 B 20150527; EP 2643384 A1 20131002; KR 20130117820 A 20131028; SG 190372 A1 20130628; US 2013239468 A1 20130919

DOCDB simple family (application)
US 2011061620 W 20111121; AU 2011332104 A 20111121; BR 112013012792 A 20111121; CA 2818753 A 20111121; CN 201180065743 A 20111121; EP 11791398 A 20111121; KR 20137016068 A 20111121; SG 2013039516 A 20111121; US 201113988585 A 20111121