

Title (en)  
ULTRA-LOW MOLECULAR WEIGHT AMIDE/ESTER CONTAINING QUATERNARY AMMONIUM SALTS HAVING SHORT HYDROCARBON TAILS

Title (de)  
AMID/ESTER MIT EXTREM NIEDRIGEM MOLEKULARGEWICHT MIT QUATERNÄREN AMMONIUMSALZEN MIT KURZEN KOHLENWASSERSTOFFSCHWÄNZEN

Title (fr)  
AMIDE/ESTER DE MASSE MOLÉCULAIRE ULTRA FAIBLE CONTENANT DES SELS D'AMMONIUM QUATERNAIRE COMPORTANT DE COURTES QUEUES HYDROCARBONÉES

Publication  
**EP 3383978 B1 20230712 (EN)**

Application  
**EP 16822790 A 20161202**

Priority  
• US 201562262140 P 20151202  
• US 2016064612 W 20161202

Abstract (en)  
[origin: WO2017096159A1] The present technology is related to amide or ester containing quaternary ammonium salts having a hydrocarbyl substituent of number average molecular weight less 300, and additive packages having such quaternary ammonium salts and improved stability.

IPC 8 full level  
**C10L 1/188** (2006.01); **C10L 1/197** (2006.01); **C10L 1/22** (2006.01); **C10L 1/222** (2006.01); **C10L 1/224** (2006.01); **C10L 1/2387** (2006.01); **C10M 133/04** (2006.01); **C10M 133/08** (2006.01); **C10M 133/16** (2006.01); **C10N 30/04** (2006.01); **C10N 40/25** (2006.01)

CPC (source: EP KR US)  
**C10L 1/1881** (2013.01 - EP US); **C10L 1/1883** (2013.01 - EP KR US); **C10L 1/1905** (2013.01 - US); **C10L 1/1976** (2013.01 - EP KR US); **C10L 1/221** (2013.01 - EP KR US); **C10L 1/2222** (2013.01 - EP US); **C10L 1/2225** (2013.01 - EP KR US); **C10L 1/224** (2013.01 - EP KR US); **C10L 1/2387** (2013.01 - EP KR US); **C10M 133/04** (2013.01 - EP US); **C10M 133/08** (2013.01 - EP KR US); **C10M 133/16** (2013.01 - EP KR US); **C10L 2200/0446** (2013.01 - EP KR US); **C10L 2230/08** (2013.01 - US); **C10L 2270/026** (2013.01 - EP KR US); **C10M 2207/125** (2013.01 - EP US); **C10M 2207/127** (2013.01 - EP KR US); **C10M 2207/129** (2013.01 - EP US); **C10M 2215/04** (2013.01 - EP US); **C10M 2215/042** (2013.01 - EP US); **C10M 2215/08** (2013.01 - EP US); **C10M 2215/082** (2013.01 - EP US); **C10M 2215/26** (2013.01 - EP US); **C10M 2215/28** (2013.01 - EP US); **C10M 2217/043** (2013.01 - EP US); **C10N 2020/04** (2013.01 - EP US); **C10N 2030/04** (2013.01 - EP US); **C10N 2030/70** (2020.05 - EP US); **C10N 2040/25** (2013.01 - EP US); **C10N 2040/252** (2020.05 - EP US); **C10N 2040/253** (2020.05 - EP US); **C10N 2040/255** (2020.05 - EP US); **C10N 2070/00** (2013.01 - EP US)

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 2017096159 A1 20170608**; AR 106952 A1 20180307; AU 2016362476 A1 20180607; AU 2016362476 B2 20200730; BR 112018011155 A2 20181121; CN 108699461 A 20181023; EP 3383978 A1 20181010; EP 3383978 B1 20230712; KR 102653310 B1 20240329; KR 20180089477 A 20180808; PL 3383978 T3 20231016; SG 10202005167T A 20200729; SG 11201804230P A 20180628; US 2018355267 A1 20181213

DOCDB simple family (application)  
**US 2016064612 W 20161202**; AR P160103723 A 20161205; AU 2016362476 A 20161202; BR 112018011155 A 20161202; CN 201680080635 A 20161202; EP 16822790 A 20161202; KR 20187018736 A 20161202; PL 16822790 T 20161202; SG 10202005167T A 20161202; SG 11201804230P A 20161202; US 201615780716 A 20161202