

Title (en)  
METHOD OF LUBRICATING AN INTERNAL COMBUSTION ENGINE

Title (de)  
VERFAHREN ZUM SCHMIEREN EINES VERBRENNUNGSMOTORS

Title (fr)  
PROCÉDÉ DE LUBRIFICATION D'UN MOTEUR À COMBUSTION INTERNE

Publication  
**EP 3116980 A1 20170118 (EN)**

Application  
**EP 15710331 A 20150223**

Priority

- US 201461951628 P 20140312
- US 2015017027 W 20150223

Abstract (en)  
[origin: WO2015138108A1] The invention provides a method of lubricating an internal combustion engine equipped with a centrifugal oil mist separator, wherein the lubricant contains 0.1 wt % to 8 wt % soot resulting from operation of the engine, and wherein the lubricant composition comprises an oil of lubricating viscosity, and 0.2 wt % to 3 wt % of a soot dispersing additive, wherein the soot dispersing additive comprises a polymer chain having a number average molecular weight of 500 to 20,000, and wherein the soot dispersing additive has a shear stability index of 0 to 20.

IPC 8 full level  
**C10M 149/12** (2006.01); **F01M 13/04** (2006.01); **C10N 20/04** (2006.01); **C10N 30/04** (2006.01); **C10N 40/25** (2006.01)

CPC (source: CN EP US)  
**C10M 149/12** (2013.01 - CN EP US); **C10M 169/04** (2013.01 - US); **C10M 2203/1006** (2013.01 - US); **C10M 2207/026** (2013.01 - CN EP US); **C10M 2215/064** (2013.01 - CN EP US); **C10M 2215/28** (2013.01 - CN EP US); **C10M 2217/06** (2013.01 - CN EP US); **C10M 2219/022** (2013.01 - CN EP US); **C10M 2219/046** (2013.01 - CN EP US); **C10M 2223/045** (2013.01 - CN EP US); **C10N 2020/019** (2020.05 - CN EP US); **C10N 2020/04** (2013.01 - CN EP US); **C10N 2030/04** (2013.01 - US); **C10N 2030/041** (2020.05 - CN EP US); **C10N 2030/10** (2013.01 - US); **C10N 2030/52** (2020.05 - CN EP US); **C10N 2040/25** (2013.01 - US); **C10N 2040/255** (2020.05 - CN EP US)

Citation (search report)  
See references of WO 2015138108A1

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)  
**WO 2015138108 A1 20150917**; CA 2941721 A1 20150917; CN 106459812 A 20170222; CN 106459812 B 20200218; EP 3116980 A1 20170118; EP 3116980 B1 20230426; ES 2945598 T3 20230704; SG 10201807892X A 20181030; SG 11201607423W A 20161028; US 2017073606 A1 20170316

DOCDB simple family (application)  
**US 2015017027 W 20150223**; CA 2941721 A 20150223; CN 201580024035 A 20150223; EP 15710331 A 20150223; ES 15710331 T 20150223; SG 10201807892X A 20150223; SG 11201607423W A 20150223; US 201515125393 A 20150223