

Title (en)  
Lubricant composition comprising a flow improver having a bi-modal side-chain distribution

Title (de)  
Schmiermittelzusammensetzung enthaltend einen Fliessverbesserer mit einem bimodalen Seitenkettenverteilung

Title (fr)  
Composition lubrifiante comprenant un agent d'amélioration de l'écoulement comportant une distribution de chaîne latérale bimodale

Publication  
**EP 2071013 A2 20090617 (EN)**

Application  
**EP 08105917 A 20081202**

Priority  
US 94908307 A 20071203

Abstract (en)  
A lubricant composition is disclosed. The lubricant composition is made up of (a) an API Group III base stock; (b) one or more semi-crystalline viscosity modifier; and (c) one or more LOFIs having a side-chain distribution which satisfies the following requirements: (1) the distribution contains side chains ranging from C 8 to C 18 with an average carbon number ranging from 12.4 to 14.4; (2) the side chain distribution is bi-modal with a lower portion of the bi-modal distribution made up primarily of C 12 and an upper portion of the distribution made up primarily of C 16, C 18 or combinations thereof; (3) the total mole % of the upper portion of the distribution must be less than that of the lower portion of the distribution; and (4) the amount of C 12 on the side chain must be at least 40 mole % of the total side chain distribution.

IPC 8 full level  
**C10M 169/04** (2006.01); **C10N 20/02** (2006.01); **C10N 20/04** (2006.01); **C10N 30/08** (2006.01)

CPC (source: EP US)  
**C10M 169/04** (2013.01 - EP US); **C10M 2203/1006** (2013.01 - EP US); **C10M 2205/022** (2013.01 - EP US); **C10M 2205/024** (2013.01 - EP US); **C10M 2205/026** (2013.01 - EP US); **C10M 2205/028** (2013.01 - EP US); **C10M 2205/08** (2013.01 - EP US); **C10M 2209/084** (2013.01 - EP US); **C10M 2209/086** (2013.01 - EP US); **C10N 2020/02** (2013.01 - EP US); **C10N 2020/04** (2013.01 - EP US); **C10N 2030/08** (2013.01 - EP US)

Citation (applicant)

- US 6475963 B1 20021105 - BLOCH RICARDO A [US], et al
- US 3551336 A 19701229 - JACOBSON NORMAN, et al
- US 4804794 A 19890214 - VER STRATE GARY [US], et al
- US 3697429 A 19721010 - ENGEL LAWRENCE J, et al
- US 5891831 A 19990406 - MATSUYA HIDEHIKO [JP], et al
- US 6869919 B2 20050322 - RITCHIE ANDREW J D [US], et al
- US 4564438 A 19860114 - WANG SOPHIA [US], et al
- US 1969324 A 19340807 - POULTER JOHN W
- US 3933659 A 19760120 - LYLE RICHARD E, et al
- US 4176074 A 19791127 - COUPLAND KEITH [CA], et al
- US 4105571 A 19780808 - SHAUB HAROLD, et al
- US 3779928 A 19731218 - SCHLICHT R
- US 3778375 A 19731211 - BRAID M, et al
- US 3852205 A 19741203 - KABLAOUI M, et al
- US 3879306 A 19750422 - KABLAOUI MAHMOUD S, et al
- US 3932290 A 19760113 - KOCH FREDERICK WILLIAM, et al
- US 4028258 A 19770607 - KABLAOUI MAHMOUD S, et al
- US 4344853 A 19820817 - GUTIERREZ ANTONIO, et al
- US 6127321 A 20001003 - EMERT JACOB [US], et al
- G. VERSTRATE; M. J. STRUGLINSKI: "Polymers as Rheology Modifiers", 1991, AMERICAN CHEMICAL SOCIETY, article "Polymers as Lubricating Oil Viscosity Modifiers"

Cited by  
WO2013062924A3

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA MK RS

DOCDB simple family (publication)  
**EP 2071013 A2 20090617; EP 2071013 A3 20111012; EP 2071013 B1 20171108;** CA 2645580 A1 20090603; CA 2645580 C 20150630;  
CN 101451086 A 20090610; CN 101451086 B 20130612; JP 2009138195 A 20090625; JP 5517440 B2 20140611; SG 153029 A1 20090629;  
US 2009143263 A1 20090604

DOCDB simple family (application)  
**EP 08105917 A 20081202;** CA 2645580 A 20081202; CN 200810181664 A 20081202; JP 2008308406 A 20081203;  
SG 2008089237 A 20081202; US 94908307 A 20071203