Title (en)

LUBRICATING OIL COMPOSITION

Title (de)

SCHMIERÖLZUSAMMENSETZUNG

Title (fr)

COMPOSITION D'HUILE LUBRIFIANTE

Publication

EP 3766949 A4 20211201 (EN)

Application

EP 19768240 A 20190312

Priority

- JP 2018044412 A 20180312
- JP 2019010032 W 20190312

Abstract (en)

[origin: EP3766949A1] The present invention relates to a lubricating oil composition containing a base oil (A) and a viscosity index improver (B) such that in X-ray small-angle scattering spectra obtained through measurement at 40°C and 100°C, a ratio [Δ|α(40) |/Δ|α(100) |] between Δ|α(40) | and Δ|α(100) each of which is an absolute value of a slope of a straight line calculated in a range of the scattering vector q as the x axis of from 0.1 nm⁻¹ to 1 nm⁻¹ by the least-squares method, is 1.5 or more.

IPC 8 full level

C10M 169/04 (2006.01); **C10M 101/02** (2006.01); **C10M 143/12** (2006.01); C10N 20/00 (2006.01); C10N 20/04 (2006.01); C10N 30/00 (2006.01); C10N 30/08 (2006.01); C10N 40/25 (2006.01)

CPC (source: EP US)

C10M 101/02 (2013.01 - US); **C10M 143/14** (2013.01 - US); **C10M 169/041** (2013.01 - US); **C10M 171/00** (2013.01 - EP); C10M 2203/003 (2013.01 - US); C10M 2203/1025 (2013.01 - EP); C10M 2205/024 (2013.01 - EP); C10M 2205/06 (2013.01 - EP); C10M 2205/08 (2013.01 - US); C10M 2207/026 (2013.01 - EP); C10M 2207/262 (2013.01 - EP); C10M 2209/084 (2013.01 - EP); C10M 2215/064 (2013.01 - EP); C10M 2215/223 (2013.01 - EP); C10M 2215/28 (2013.01 - EP); C10M 2219/068 (2013.01 - EP); C10M 2223/045 (2013.01 - EP); C10M 2229/02 (2013.01 - EP); C10N 2020/04 (2013.01 - EP); C10N 2020/071 (2020.05 - US); C10N 2030/78 (2020.05 - EP); C10N 2040/25 (2013.01 - EP US)

C-Set (source: EP)

1. C10M 2205/06 + C10M 2209/04 + C10M 2209/084 + C10N 2060/02
2. C10M 2205/024 + C10M 2205/04 + C10M 2205/06
3. C10M 2205/06 + C10M 2209/04 + C10M 2209/084
4. C10M 2205/024 + C10M 2205/04
5. C10M 2203/1025 + C10N 2020/02
6. C10M 2219/068 + C10N 2010/12
7. C10M 2207/262 + C10N 2010/04
8. C10M 2215/28 + C10N 2060/14
9. C10M 2223/045 + C10N 2010/04

Citation (search report)

- [XI] JP 2015160951 A 20150907 - COSMO OIL LUBRICANTS CO LTD
- [X] US 2017096616 A1 20170406 - SUETSUGU YOSHIYUKI [JP]
- [X] US 2013196888 A1 20130801 - TRUONG-DINH NGUYEN [FR]
- [X] US 2017088789 A1 20170330 - GRISSO BRYAN A [US], et al
- [X] LI WEI ET AL: "Synthesis and characterisation of HSIBR used as viscosity index improver for lubricants : SYNTHESIS AND CHARACTERISATION OF HSIBR USED AS VII FOR LUBRICANTS", LUBRICATION SCIENCE, vol. 24, no. 4, 26 January 2012 (2012-01-26), US, pages 188 - 197, XP055854060, ISSN: 0954-0075, Retrieved from the Internet <URL:https://api.wiley.com/onlinelibrary/tdm/v1/articles/10.1002%2Fls.1174> DOI: 10.1002/ls.1174
- See references of WO 2019176944A1

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)

EP 3766949 A1 20210120; **EP 3766949 A4 20211201**; CN 111801407 A 20201020; JP 7341979 B2 20230911; JP WO2019176944 A1 20210225; US 2021047582 A1 20210218; WO 2019176944 A1 20190919

DOCDB simple family (application)

EP 19768240 A 20190312; CN 201980018126 A 20190312; JP 2019010032 W 20190312; JP 2020506562 A 20190312; US 201916978925 A 20190312