

Title (en)

TCD-ESTERS FOR LOW TEMPERATURE LIQUID APPLICATIONS

Title (de)

TCD-ESTER FÜR NIEDERTEMPERATUR-SCHMIERSTOFFANWENDUNGEN

Title (fr)

ESTERS TCD POUR APPLICATIONS DE LIQUIDE À BASSE TEMPÉRATURE

Publication

EP 4097197 B1 20240320 (DE)

Application

EP 21703625 A 20210128

Priority

- DE 102020102162 A 20200129
- EP 2021051964 W 20210128

Abstract (en)

[origin: TW202128607A] The present invention relates to the use of esters of octahydro-4,7-methano-1H-indene-5-methanol (TCD-M) or -dimethanol (TCD-DM) and aliphatic C₂ - C₁₈ monocarboxylic acids as lubricants in low temperature applications. In addition, the present invention relates to low-temperature lubricant compositions comprising said esters.

IPC 8 full level

C10M 171/00 (2006.01); **C10M 105/34** (2006.01); **C10M 105/38** (2006.01)

CPC (source: EP KR US)

C10M 105/34 (2013.01 - EP KR US); **C10M 105/38** (2013.01 - EP KR US); **C10M 171/008** (2013.01 - EP KR); **C10M 2207/281** (2013.01 - EP KR); **C10M 2207/2815** (2013.01 - EP KR US); **C10M 2207/2835** (2013.01 - EP KR US); **C10N 2020/02** (2013.01 - EP KR); **C10N 2020/06** (2013.01 - EP KR); **C10N 2030/02** (2013.01 - EP KR); **C10N 2040/30** (2013.01 - EP KR US)

Citation (examination)

- EP 3098216 B1 20191106 - KOKYU ALCOHOL KOGYO CO LTD [JP]
- EP 0445611 B1 19940427 - HOECHST AG [DE]

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)

DE 102020102162 A1 20210729; CN 114945656 A 20220826; EP 4097197 A1 20221207; EP 4097197 B1 20240320; EP 4097197 C0 20240320; JP 2023512949 A 20230330; JP 7416963 B2 20240117; KR 20220130789 A 20220927; TW 202128607 A 20210801; US 11795410 B2 20231024; US 2023063112 A1 20230302; WO 2021152001 A1 20210805

DOCDB simple family (application)

DE 102020102162 A 20200129; CN 202180008568 A 20210128; EP 2021051964 W 20210128; EP 21703625 A 20210128; JP 2022544086 A 20210128; KR 20227029697 A 20210128; TW 110103146 A 20210128; US 202117795158 A 20210128