

Title (en)

CRANKCASE LUBRICATING COMPOSITIONS

Title (de)

SCHMIERMITTELZUSAMMENSETZUNGEN FÜR KURBELGEHÄUSEN

Title (fr)

COMPOSITIONS LUBRIFIANTES POUR CARTERS

Publication

**EP 0874885 B1 19991020 (EN)**

Application

**EP 96929022 A 19960826**

Priority

- US 9613637 W 19960826
- US 52844995 A 19950914

Abstract (en)

[origin: WO9710318A1] Lubricants with improved acid neutralization properties and excellent sludge and wear performance in the Seq. 5E test are formed using a detergent system comprising one or more alkali or alkaline earth metal salts of an oil soluble organic acid selected from the group consisting of sulfonic acids, phenols, sulfurized phenols, and carboxylic acids (including salicylic acids) wherein at least one metal salt is overbased and the ratio of inorganic to organic salt present in the detergent system expressed as TBN from inorganic salts (the overbasing) to the total moles of organic salt is at least 2500. Further improvement in acid neutralization is possible by keeping the amount of dispersant nitrogen added to the basestock (independent of any nitrogen present in the basestock) below 0.053 wt.% and using a zinc dihydrocarbyl dithiophosphate system wherein at least half of the hydrocarbyl groups are secondary alkyl groups.

IPC 1-7

**C10M 163/00**

IPC 8 full level

**C10M 133/52** (2006.01); **C10M 133/56** (2006.01); **C10M 137/10** (2006.01); **C10M 159/20** (2006.01); **C10M 163/00** (2006.01);  
**C10N 30/00** (2006.01); **C10N 30/06** (2006.01); **C10N 40/04** (2006.01)

CPC (source: EP US)

**C10M 163/00** (2013.01 - EP US); **C10M 2205/00** (2013.01 - EP); **C10M 2205/026** (2013.01 - EP); **C10M 2205/06** (2013.01 - EP);  
**C10M 2207/027** (2013.01 - EP); **C10M 2207/028** (2013.01 - EP); **C10M 2207/125** (2013.01 - EP); **C10M 2207/129** (2013.01 - EP);  
**C10M 2207/144** (2013.01 - EP); **C10M 2207/146** (2013.01 - EP); **C10M 2207/262** (2013.01 - EP); **C10M 2209/084** (2013.01 - EP);  
**C10M 2209/086** (2013.01 - EP); **C10M 2215/04** (2013.01 - EP); **C10M 2215/042** (2013.01 - EP); **C10M 2215/08** (2013.01 - EP);  
**C10M 2215/082** (2013.01 - EP); **C10M 2215/086** (2013.01 - EP); **C10M 2215/26** (2013.01 - EP); **C10M 2215/28** (2013.01 - EP);  
**C10M 2217/024** (2013.01 - EP); **C10M 2217/046** (2013.01 - EP); **C10M 2217/06** (2013.01 - EP); **C10M 2219/044** (2013.01 - EP);  
**C10M 2219/046** (2013.01 - EP); **C10M 2219/087** (2013.01 - EP); **C10M 2219/088** (2013.01 - EP); **C10M 2219/089** (2013.01 - EP);  
**C10M 2223/045** (2013.01 - EP); **C10M 2227/061** (2013.01 - EP); **C10N 2010/00** (2013.01 - EP); **C10N 2010/02** (2013.01 - EP);  
**C10N 2010/04** (2013.01 - EP); **C10N 2010/08** (2013.01 - EP); **C10N 2010/14** (2013.01 - EP US); **C10N 2010/16** (2013.01 - EP US);  
**C10N 2040/25** (2013.01 - EP); **C10N 2040/251** (2020.05 - EP); **C10N 2040/255** (2020.05 - EP); **C10N 2040/28** (2013.01 - EP)

Designated contracting state (EPC)

BE DE ES FR GB IT NL

DOCDB simple family (publication)

**WO 9710318 A1 19970320**; AU 6858096 A 19970401; AU 707567 B2 19990715; CA 2221491 A1 19970320; DE 69604832 D1 19991125;  
DE 69604832 T2 20000427; EP 0874885 A1 19981104; EP 0874885 B1 19991020; ES 2138372 T3 20000101; JP H11513412 A 19991116

DOCDB simple family (application)

**US 9613637 W 19960826**; AU 6858096 A 19960826; CA 2221491 A 19960826; DE 69604832 T 19960826; EP 96929022 A 19960826;  
ES 96929022 T 19960826; JP 51196797 A 19960826