

Title (en)
LUBRICANT COMPOSITIONS PROVIDING WEAR PROTECTION AT REDUCED PHOSPHORUS LEVELS

Publication
EP 0277729 B1 19920311 (EN)

Application
EP 88300500 A 19880121

Priority
US 600487 A 19870121

Abstract (en)
[origin: EP0277729A1] An additive composition suitable for blending passenger car and heavy duty oils comprising (a) zinc dialkyldithiophosphate having both primary and secondary character such the primary to secondary ratio is about 1:1 to about 5:1, said zinc dialkyldithiophosphate being present in an amount such that a lubricating oil containing an effective amount of the additive composition will have a phosphorus level not greater than about 0.1 wt%; (b) a succinimide dispersant; and (c) a total base number such that a lubricating oil containing an effective amount of the additive composition will have a TBN of at least 8.

IPC 1-7
C10M 163/00; **C10N 10/04**; **C10N 30/06**; **C10N 40/00**; **C10N 60/14**

IPC 8 full level
C10M 163/00 (2006.01)

CPC (source: EP)
C10M 133/52 (2013.01); **C10M 137/10** (2013.01); **C10M 159/16** (2013.01); **C10M 159/22** (2013.01); **C10M 159/24** (2013.01); **C10M 163/00** (2013.01); **C10M 2207/028** (2013.01); **C10M 2207/262** (2013.01); **C10M 2215/04** (2013.01); **C10M 2215/042** (2013.01); **C10M 2215/064** (2013.01); **C10M 2215/086** (2013.01); **C10M 2215/24** (2013.01); **C10M 2215/26** (2013.01); **C10M 2215/28** (2013.01); **C10M 2217/042** (2013.01); **C10M 2217/043** (2013.01); **C10M 2217/046** (2013.01); **C10M 2217/06** (2013.01); **C10M 2219/046** (2013.01); **C10M 2219/087** (2013.01); **C10M 2219/088** (2013.01); **C10M 2219/089** (2013.01); **C10M 2223/045** (2013.01); **C10M 2227/061** (2013.01); **C10N 2010/04** (2013.01); **C10N 2040/25** (2013.01); **C10N 2040/251** (2020.05); **C10N 2040/252** (2020.05); **C10N 2040/253** (2020.05); **C10N 2040/255** (2020.05); **C10N 2040/28** (2013.01)

Citation (examination)
EP 0206748 A2 19861230 - CHEVRON RES [US]

Cited by
EP0444830A1; GB2303378A; GB2303378B; EP0725129A3; EP0648830A3; US5726134A; AU692579B2; JPH09512584A; US5652201A; CN113930271A; EP0552892A1; US5326485A; AU656835B2; US5719107A; USRE39648E; EP0638632A3; EP1213341A1; EP0317348A1; EP0317354A1; CN101798545A; US6004910A; EP4306624A1; US6767871B2; US7744660B2; US6649575B2; WO2018033785A1; WO2005003265A1; WO2009108367A3; WO9324599A1; WO9529976A1; WO9601885A1; WO9412595A1; EP1391500A1; EP0373454A1; EP4202023A1; US8088720B2

Designated contracting state (EPC)
BE DE FR GB IT NL

DOCDB simple family (publication)
EP 0277729 A1 19880810; **EP 0277729 B1 19920311**; DE 3868949 D1 19920416

DOCDB simple family (application)
EP 88300500 A 19880121; DE 3868949 T 19880121