

Title (en)  
LUBRICATING COMPOSITION SUBSTANTIALLY FREE OF ZDDP

Title (de)  
WEITGEHEND ZDDP-FREIE SCHMIERMITTELZUSAMMENSETZUNG

Title (fr)  
COMPOSITION LUBRIFIANTE PRATIQUEMENT EXEMPTÉ DE ZDDP

Publication  
**EP 1702049 B1 20180221 (EN)**

Application  
**EP 04814892 A 20041217**

Priority

- US 2004042758 W 20041217
- US 75180904 A 20040105

Abstract (en)  
[origin: US2005148477A1] The present invention provides a composition comprising: (a) a metal salixarate; (b) at least one additive selected from the group consisting of (1) an antioxidant; (2) a friction modifier; (3) a dispersant; (4) a viscosity modifier; (5) a dispersant viscosity modifier; and (6) an antiwear agent other than a metal hydrocarbyl dithiophosphate; and (c) an oil of lubricating viscosity, wherein the composition contains 400 ppm or less of phosphorus derived from a metal hydrocarbyl dithiophosphate. The invention further provides a process for preparing the composition and its use.

IPC 8 full level  
**C10M 163/00** (2006.01); **C10M 159/22** (2006.01)

CPC (source: EP US)  
**C10M 159/22** (2013.01 - EP US); **C10M 163/00** (2013.01 - EP US); **C10M 2207/026** (2013.01 - EP US); **C10M 2207/027** (2013.01 - EP US); **C10M 2207/028** (2013.01 - EP US); **C10M 2207/144** (2013.01 - EP US); **C10M 2207/262** (2013.01 - EP US); **C10M 2207/288** (2013.01 - EP US); **C10M 2209/086** (2013.01 - EP US); **C10M 2215/02** (2013.01 - EP US); **C10M 2215/064** (2013.01 - EP US); **C10M 2215/28** (2013.01 - EP US); **C10M 2217/06** (2013.01 - EP US); **C10N 2030/04** (2013.01 - EP US); **C10N 2030/06** (2013.01 - EP US); **C10N 2030/42** (2020.05 - EP US); **C10N 2030/43** (2020.05 - EP US); **C10N 2030/50** (2020.05 - EP US); **C10N 2040/25** (2013.01 - EP US)

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
**US 2005148477 A1 20050707**; CA 2552606 A1 20050728; EP 1702049 A1 20060920; EP 1702049 B1 20180221; JP 2007517937 A 20070705; JP 2011214013 A 201111027; WO 2005068590 A1 20050728

DOCDB simple family (application)  
**US 75180904 A 20040105**; CA 2552606 A 20041217; EP 04814892 A 20041217; JP 2006547216 A 20041217; JP 2011165988 A 20110728; US 2004042758 W 20041217