

Title (en)

Crankcase lubricating oil compositions and additives for use therein.

Title (de)

Schmierölzusammensetzungen für Kurbelgehäuse und Zusätze dafür.

Title (fr)

Compositions d'huile lubrifiante pour carter-moteur et des additifs pour utilisation dans celles-ci.

Publication

**EP 0384720 B1 19931201 (EN)**

Application

**EP 90301833 A 19900221**

Priority

GB 8904203 A 19890223

Abstract (en)

[origin: EP0384720A1] Substituted para-phenylene diamines have been found to be effective antioxidants capable of protecting crankcase lubricating oils from thickening and sludge formation after prolonged exposure to oxygen at elevated temperature.

IPC 1-7

**C10M 133/12**; **C10M 167/00**

IPC 8 full level

**C10M 133/12** (2006.01); **C10M 137/10** (2006.01); **C10M 159/16** (2006.01); **C10M 159/24** (2006.01); **C10M 163/00** (2006.01); **C10M 167/00** (2006.01); **C10N 10/04** (2006.01); **C10N 20/04** (2006.01); **C10N 30/02** (2006.01); **C10N 30/04** (2006.01); **C10N 30/06** (2006.01); **C10N 30/10** (2006.01); **C10N 40/25** (2006.01)

CPC (source: EP US)

**C10M 129/95** (2013.01 - EP); **C10M 133/12** (2013.01 - EP); **C10M 133/52** (2013.01 - EP); **C10M 137/02** (2013.01 - EP); **C10M 137/10** (2013.01 - EP); **C10M 143/02** (2013.01 - EP); **C10M 159/16** (2013.01 - EP); **C10M 159/20** (2013.01 - EP); **C10M 159/22** (2013.01 - EP); **C10M 159/24** (2013.01 - EP); **C10M 167/00** (2013.01 - EP US); **C10M 2205/00** (2013.01 - EP); **C10M 2205/022** (2013.01 - EP); **C10M 2205/026** (2013.01 - EP); **C10M 2207/024** (2013.01 - EP); **C10M 2207/027** (2013.01 - EP); **C10M 2207/028** (2013.01 - EP); **C10M 2207/09** (2013.01 - EP); **C10M 2207/123** (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 2207/16** (2013.01 - EP); **C10M 2207/22** (2013.01 - EP); **C10M 2207/26** (2013.01 - EP); **C10M 2207/262** (2013.01 - EP); **C10M 2207/287** (2013.01 - EP); **C10M 2207/289** (2013.01 - EP); **C10M 2207/34** (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 2215/06** (2013.01 - EP); **C10M 2215/064** (2013.01 - EP); **C10M 2215/065** (2013.01 - EP); **C10M 2215/066** (2013.01 - EP); **C10M 2215/067** (2013.01 - EP); **C10M 2215/068** (2013.01 - EP); **C10M 2215/14** (2013.01 - EP); **C10M 2215/22** (2013.01 - EP); **C10M 2215/221** (2013.01 - EP); **C10M 2215/225** (2013.01 - EP); **C10M 2215/226** (2013.01 - EP); **C10M 2215/24** (2013.01 - EP); **C10M 2215/26** (2013.01 - EP); **C10M 2215/30** (2013.01 - EP); **C10M 2217/023** (2013.01 - EP); **C10M 2217/024** (2013.01 - EP); **C10M 2217/028** (2013.01 - EP); **C10M 2217/043** (2013.01 - EP); **C10M 2217/046** (2013.01 - EP); **C10M 2217/06** (2013.01 - EP); **C10M 2219/022** (2013.01 - EP); **C10M 2219/024** (2013.01 - EP); **C10M 2219/044** (2013.01 - EP); **C10M 2219/046** (2013.01 - EP); **C10M 2219/068** (2013.01 - EP); **C10M 2219/082** (2013.01 - EP); **C10M 2219/083** (2013.01 - EP); **C10M 2219/085** (2013.01 - EP); **C10M 2219/087** (2013.01 - EP); **C10M 2219/088** (2013.01 - EP); **C10M 2219/089** (2013.01 - EP); **C10M 2219/10** (2013.01 - EP); **C10M 2219/102** (2013.01 - EP); **C10M 2219/104** (2013.01 - EP); **C10M 2219/106** (2013.01 - EP); **C10M 2219/108** (2013.01 - EP); **C10M 2221/04** (2013.01 - EP); **C10M 2223/02** (2013.01 - EP); **C10M 2223/04** (2013.01 - EP); **C10M 2223/041** (2013.01 - EP); **C10M 2223/042** (2013.01 - EP); **C10M 2223/045** (2013.01 - EP); **C10M 2223/047** (2013.01 - EP); **C10M 2223/049** (2013.01 - EP); **C10M 2223/06** (2013.01 - EP); **C10M 2223/061** (2013.01 - EP); **C10M 2223/065** (2013.01 - EP); **C10M 2223/10** (2013.01 - EP); **C10M 2223/12** (2013.01 - EP); **C10M 2225/04** (2013.01 - EP); **C10N 2010/00** (2013.01 - EP); **C10N 2010/02** (2013.01 - EP); **C10N 2010/04** (2013.01 - EP); **C10N 2010/12** (2013.01 - EP); **C10N 2010/14** (2013.01 - EP); **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); **C10N 2070/02** (2020.05 - EP)

Cited by

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