

Title (en)

Use of a carboxylate for improving elastomer compatibility

Title (de)

Verwendung eines Carboxylats zur Verbesserung der Elastomerverträglichkeit

Title (fr)

L' utilisation d'un carboxylate pour améliorer la compatibilité avec les élastomers

Publication

**EP 1452581 A2 20040901 (EN)**

Application

**EP 04250661 A 20040206**

Priority

US 37791503 A 20030227

Abstract (en)

This invention relates to a method of improving elastomer seal compatibility and dispersancy in an internal combustion engine by contacting the elastomer seal in the internal combustion engine with a lubricating oil composition comprising: a) a major amount of a base oil of lubricating viscosity; b) a carboxylated detergent-dispersant obtained by: (i) neutralizing alkylphenols using an alkaline earth base in the presence of at least one carboxylic acid that contains from one to four carbon atoms but in the absence of alkali base, dialcohol, and monoalcohol, forming an intermediate product; and (ii) carboxylating the intermediate product using carbon dioxide so that at least 20 mole percent of the original alkylphenol starting material has been converted to alkaline earth metal single aromatic-ring hydrocarbyl salicylate; and c) a nitrogen-containing dispersant.

IPC 1-7

**C10M 163/00**; C10M 177/00

IPC 8 full level

**C10M 129/10** (2006.01); **C10M 129/54** (2006.01); **C10M 129/92** (2006.01); **C10M 129/95** (2006.01); **C10M 133/56** (2006.01); **C10M 141/06** (2006.01); **C10M 159/12** (2006.01); **C10M 159/22** (2006.01); **C10M 163/00** (2006.01); **C10M 169/04** (2006.01); **C10M 177/00** (2006.01); C10N 10/04 (2006.01); C10N 30/00 (2006.01); C10N 30/04 (2006.01); C10N 40/25 (2006.01)

CPC (source: EP US)

**C10M 141/06** (2013.01 - EP US); **C10M 163/00** (2013.01 - EP US); **C10M 177/00** (2013.01 - EP US); **C10M 2207/023** (2013.01 - EP US); **C10M 2207/027** (2013.01 - EP US); **C10M 2207/144** (2013.01 - EP US); **C10M 2215/086** (2013.01 - EP US); **C10M 2215/28** (2013.01 - EP US); **C10M 2223/045** (2013.01 - EP US); **C10N 2010/04** (2013.01 - EP US); **C10N 2030/04** (2013.01 - EP US); **C10N 2030/36** (2020.05 - EP US); **C10N 2040/25** (2013.01 - EP US)

Cited by

EP2559748A1; GB2464590A; EP1803797A3; GB2464590B; US10000719B2; EP1710294A1

Designated contracting state (EPC)

DE FR GB NL

DOCDB simple family (publication)

**EP 1452581 A2 20040901**; **EP 1452581 A3 20041222**; **EP 1452581 B1 20100728**; CA 2457082 A1 20040827; DE 602004028304 D1 20100909; JP 2004256817 A 20040916; SG 135942 A1 20071029; US 2004171501 A1 20040902

DOCDB simple family (application)

**EP 04250661 A 20040206**; CA 2457082 A 20040205; DE 602004028304 T 20040206; JP 2004052216 A 20040226; SG 2004005765 A 20040209; US 37791503 A 20030227