

**IN THE UNITED STATES PATENT & TRADEMARK OFFICE
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Application Number : 10/430,594 Confirmation No. 3438
Applicant : Satoshi Hirano et al.
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Examiner : Ellen M. McAvoy
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MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents
P.O. Box 1450
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APPEAL BRIEF

Sir:

This Appeal Brief is filed under 37 C.F.R. § 41.37 pursuant to the Notice of Appeal filed on December 21, 2011, and in response to the Advisory Action mailed January 9, 2012 and the Final Office Action mailed on June 21, 2011.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The claimed invention relates to motor-driven vehicle lubricating oil compositions, and method of using the same, designed to lubricate the crankcase of motor-driven vehicle internal combustion engines. (see, e.g., ¶¶ 0001-0003²). In particular, the claimed invention relates to motor-driven vehicle crankcase lubricating oil compositions having low sulfated ash content, low phosphorus content, and low sulfur content (see, e.g., ¶ 0001). Claims 1 and 16 are the independent claims.

A. Claimed Subject Matter of Claim 1

Claim 1 is directed to a motor-driven vehicle lubricating oil composition (see, e.g., ¶ 0037), comprising: a) a major amount of a base oil having a sulfur content of at most 0.2 wt.% (see, e.g., ¶ 0038); b) an ashless dispersant comprising an alkenyl- or alkyl-succinimide or a derivative thereof in an amount of 0.01 to 0.3 wt.% in terms of the nitrogen atom content (see, e.g., ¶ 0042); c) a metal-containing detergent that contains an organic acid metal salt, having a TBN of 10 to 350 mg KOH/g, and a sulfur content of at most 3.5 wt.%, in an amount of 0.1 to 1 wt.% in terms of a sulfated ash content with the proviso that the organic acid metal salt is incorporated into the oil composition in an amount of 0.2 to 7 wt.% (see, e.g., ¶ 0046); d) a zinc dialkyldithiophosphate in an amount of 0.01 to 0.06 wt.% in terms of a phosphorus content (see, e.g., ¶ 0054); e) a zinc dialkylaryldithiophosphate in an amount of 0.002 to 0.015 wt.% in terms of the phosphorus content (see, e.g., ¶ 0056); and f) an oxidation inhibitor selected from the group consisting of a phenol compound, an amine compound, and a molybdenum-containing compound in an amount of 0.01 to 5 wt.% (see, e.g., ¶ 0058), wherein: i) the ratio of the phosphorus content of the zinc dialkyldithiophosphate to the phosphorus content of the zinc dialkylaryldithiophosphate in the motor-driven vehicle lubricating oil composition is in the range of 10:1 to 2:1 (see, e.g., ¶ 0025); and ii) the motor-driven vehicle lubricating oil composition has a sulfur content of 0.01 to 0.5 wt.%, a phosphorus content of 0.01 to 0.1 wt.%, and a sulfated ash in the range of 0.1 to 1 wt.% (see, e.g., ¶ 0018).

² All references to the instant patent application herein are to the Patent Publication No. US 2003/0216266 (i.e., the publication of Patent Application No. US 10/430,594).

B. Claimed Subject Matter of Claim 16

Claim 16 is directed to a motor-driven vehicle lubricating oil composition (see, e.g., ¶ 0037) comprising a base oil having a sulfur content of at most 0.2 wt. % (see, e.g., ¶ 0038), an ashless dispersant comprising an alkenyl- or alkyl-succinimide or a derivative thereof (see, e.g., ¶ 0042), a metal-containing detergent comprising an organic acid metal salt, in an amount of 0.2 to 7 wt. % (see, e.g., ¶ 0046), a zinc dialkyldithiophosphate (see, e.g., ¶ 0054), a zinc dialkylaryldithiophosphate (see, e.g., ¶ 0056), and an oxidation inhibitor selected from a phenol compound, an amine compound or a molybdenum-containing compound (see, e.g., ¶ 0058), wherein a ratio of the phosphorus content of the zinc dialkyldithiophosphate to the phosphorus content of the zinc dialkylaryldithiophosphate in the motor-driven vehicle lubricating oil composition is in the range of 10:1 to 2:1 (see, e.g., ¶ 0025).