

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARC ANDRE POIRIER and SHLOMO ANTIKA

Appeal No. 2005-2510
Application No. 10/122,049

ON BRIEF

Before WARREN, KRATZ and TIMM, Administrative Patent Judges.
KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's refusal to allow claim 15, which is the only claim pending in this application.

BACKGROUND

Appellant's invention relates to a method for enhancing erosion resistance of a phosphate ester based hydraulic fluid by adding potassium perfluorobutane sulfonate to the fluid in an amount from about 0.01 to 0.5 weight percent

based on the fluid base stock, wherein the fluid meets Boeing test BMS 3-11L.

Claim 15 is reproduced below.

15. A method for enhancing the erosion resistance of a hydraulic fluid to meet the Boeing test BMS 3-11L wherein the fluid comprises:

a phosphate ester basestock wherein the basestock comprises:

10 to 100 weight percent of trialkyl phosphates;

0 to 75 weight percent of dialkyl aryl phosphates;

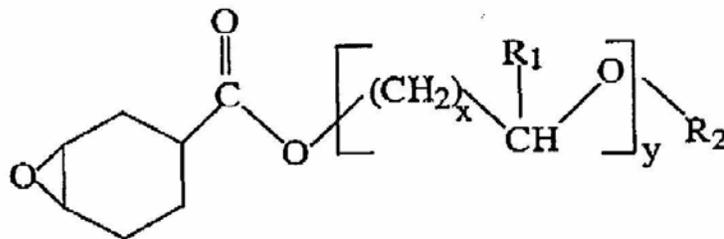
0 to 30 weight percent of alkyl diaryl phosphates;

0 to 20 weight percent of alkylated triaryl phosphates;

wherein the alkyl groups have 4 to 5 carbon atoms;

a poly alkylacrylate or methacrylate viscosity index improver where the repeating limits substantially comprise n-hexyl and idodecyl acrylate or methacrylate and wherein at least 95 wt% of viscosity index improver has a molecule weight between about 50,000 and 900,000; and,

an acid scavenger represented by the formula



where R_1 is H or C_1 to C_4 alkyl group, x is 1 or 2, y is an integer of 1 to 4, and R_2 is a C_1 to C_4 alkyl group or a phenyl group; the method comprising adding to the fluid from about 0.01 wt% to 0.5 wt% of the basestock potassium perfluorobutane sulfonate wherein said composition meets the Boeing test BMS 3-11L.

The prior art references of record relied upon by the examiner in rejecting the appealed claim are:

Smith	3,679,587	Jul. 25, 1972
Kinker et al. (Kinker)	5,817,606	Oct. 06, 1998

Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith in view of Kinker.

We refer to the brief and to the answer for a complete exposition of the opposing viewpoints expressed by appellants and the examiner concerning the issues before us on this appeal.

OPINION

Having carefully considered each of appellants' arguments set forth in the brief and the evidence supplied in rebuttal, appellants have not persuaded us of reversible error on the part of the examiner. Accordingly, we will affirm the examiner's rejection for substantially the reasons set forth by the examiner in the answer. We add the following for emphasis.

Smith (column 3, lines 56-60) teaches that trialkyl phosphates are a preferred class of phosphates for use in forming the base stock and that the phosphate ester should preferably comprise from 65 to 99.999 weight percent of the fluid composition. As pointed out by the examiner (answer, page 3), Smith discloses that ". . . the erosion effects of phosphate ester based hydraulic fluids can be greatly diminished if a small amount of a perfluorinated anionic surfactant is incorporated into such fluid formulations." See column 2, lines 46-50 of Smith. Smith (column 3, lines 4-7) discloses using from 0.001 to 5.0 parts surfactant per 100 parts of the phosphate ester. Smith provides that the perfluorinated anionic surfactant used is an alkali metal salt of a perfluoroalkyl sulfonic acid having a specified formula and provides examples of suitable compounds, including a sodium perfluorobutane sulfonate, as well as teaching that potassium may also be employed as the alkali metal in forming the salts. See column 3, lines 11-26 of Smith. Also, Smith (column 8, line 47 through column 9, line 8) teaches that epoxide scavengers, such as claimed, can be included in the fluid composition base stock. Moreover, Smith discloses that a viscosity index improver, such as a poly(alkylacrylate) or a

poly(alkylmethacrylate) can be employed in the fluid. While the polymeric viscosity improver of Smith is not described as including a polymer of the molecular weight within the range called for in the appealed claim, the examiner (answer, page 4) notes that Kinker discloses phosphate ester functional fluids wherein the viscosity index-improving polymer has a weight average molecular weight within the claimed molecular weight range.

Appellants do not dispute the examiner's determination that one of ordinary skill in the art at the time of the invention would have found the use of the higher molecular weight viscosity improver of Kinker to be an obvious substitute or additive viscosity improver for use in the functional fluid of Smith based on the combined teachings of the references. In this regard, appellants do not argue that the combined teachings of the applied references, as furnished by the examiner, fail to establish a prima facie case of obviousness of the claimed subject matter, including the claimed addition of potassium perfluorobutane sulfonate.

Rather, appellants maintain their disagreement with the examiner's obviousness determination on an alleged showing of

unexpected results set forth in a declaration by Marc-Andre Portier, a named co-inventor of the subject application. Concerning this matter, the declaration provides attachments 4-6 allegedly showing that a leakage rate for fluid C, as described in Example 2 and Table 2 of the specification, and a fluid similar to fluid C but including 0.025 weight percent of potassium perfluorobutane sulfonate each met Grade A and B specifications of a Boeing test BMS 3-11L¹ whereas other fluids tested, including fluids A and B per appellants' specification, did not meet those specifications. Appellants urge that those test results demonstrate unexpected performance for the claimed invention that rebuts the examiner's obviousness position. We disagree.

The question as to whether unexpected advantages have been demonstrated is a factual question. In re Johnson, 747 F.2d 1456, 1460, 223 USPQ 1260, 1263 (Fed. Cir. 1984). Thus, it is incumbent upon appellants to supply the factual basis to rebut

¹ In the event of further prosecution of this subject matter before the examiner in this application or another continuing application, the examiner with appellants' help should obtain a copy of the standards for this Boeing test and make that information of record.

the prima facie case of obviousness established by the examiner. See, e.g., In re Klosak, 455 F.2d 1077, 1080, 173 USPQ 14, 16 (CCPA 1972). Appellants, however, do not provide an adequate explanation regarding any factual showing in the specification and declaration tests to support a conclusion of unexpected advantages for the claimed subject matter.

In this regard, the specification example C and the declaration modified C composition for which unexpected results are alleged have not been shown to be commensurate in scope with the appealed claim. For example, the appealed claim does not require a fluid including a combination of a tributyl phosphate and an unspecified triaryl phosphate let alone in the percentage amounts tested. Nor does the appealed claim require the amounts of VI improver and other unspecified additives as employed in the tested examples, as reported in paragraph 19 and Table 2 of the specification. See In re Kerkhoven, 626 F.2d 846, 851, 205 USPQ 1069, 1072-73 (CCPA 1980) and In re Clemens, 622 F.2d 1029, 1035, 206 USPQ 289, 296 (CCPA 1980).

Moreover, the comparative examples employing lithium triflate (Fluid A), potassium triflate (Fluid B) and potassium perfluorooctyl sulfonate (Fluid D) are not representative of the

closest prior art in that Smith discloses compounds that are closer than the tested compounds to the claimed potassium perfluorobutane sulfonate, such as potassium perfluoroethane sulfonate and sodium perfluorobutane sulfonate at column 3, lines 19-25. Also, see pages 5 and 6 of the answer.

Also, given the unspecified additives present in the tested fluids and the amounts of the triaryl phosphates, trialkyl phosphates and VI improver in the tested fluids as shown in Table 2 of the specification, the comparison attempted by appellants is not fair in that there were a number of variables that were unfixed in that comparison rendering that reported comparison inconclusive with respect to establishing a difference in leakage rates based on a difference in the erosion resistance agent employed in the fluid. In other words, the cause-and-effect relationship which appellants desire to show is lost in a welter of unfixed variables. See In re Heyna, 360 F.2d 222, 228, 149 USPQ 692, 697 (CCPA 1966); In re Dunn, 349 F.2d 433, 439, 146 USPQ 479, 483 (CCPA 1965).

Hence, we are not satisfied that the evidence of record that is offered for comparison, as discussed in the brief,

demonstrates results that are truly unexpected and commensurate in scope with the claims.

Moreover, given the prior art teachings, it is our view that appellants have not met the burden of establishing that the reported results would have been truly unexpected to a person of ordinary skill in the art on this record or otherwise established the unobviousness of the claimed composition. See In re Klosak, 455 F.2d 1077, 1080, 173 USPQ 14, 16 (CCPA 1972).

Under the circumstances recounted above, it is our determination that the evidence of record for and against a conclusion of obviousness, reconsidered in light of the respective arguments and evidence advanced by appellants and the examiner, on balance, weighs most heavily in favor of an obviousness conclusion with respect to the rejection under consideration. Accordingly, we shall sustain the examiner's § 103(a) rejection.

CONCLUSION

The decision of the examiner to reject claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Smith in view of Kinker is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

CHARLES F. WARREN)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
PETER F. KRATZ)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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CATHERINE TIMM)	
Administrative Patent Judge)	

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