

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte EARL K. PHILLIPS, WILLIAM D. DETLEFSEN and  
FRED E. CARLSON

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Appeal No. 1996-2572  
Application No. 08/192,077<sup>1</sup>

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HEARD: November 18, 1999

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Before JOHN D. SMITH, WALTZ, and LIEBERMAN, Administrative  
Patent Judges.

JOHN D. SMITH, Administrative Patent Judge.

**DECISION ON APPEAL**

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<sup>1</sup> Application for patent filed February 4, 1994.

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This is an appeal pursuant to 35 U.S.C. § 134 from the final rejection of claims 1-19 and 23-27.

Claims 1 and 23 are representative and are reproduced below:

1. A method for preparing an adhesive composition from two components which method comprises:

A. preparing a first component comprising a stable aqueous alkaline monohydroxylic phenolic resole resin solution containing a methylene donor;

B. preparing a second component comprising a stable aqueous resorcinolic resin precondensate having a shortage of formaldehyde and containing a catalyst for the resole resin of the first component; and

C. forming an adhesive composition by mixing said first and second components; wherein the quantity of methylene donor in said first component and catalyst in said second component is sufficient to cause curing of the resin of the other component.

23. An alkaline adhesive composition having a pH of at least 9 and prepared by mixing:

A. about 70 to 99 parts by weight of a first component comprising a stable aqueous alkaline monohydroxylic phenolic resole resin solution having a pH of at least 9 and containing from about 0.5% to 10%, based on the weight of the solution, of a methylene donor; and

B. about 1 to 30 parts by weight of a second component comprising a stable aqueous resorcinolic resin solution having a pH of from about 6.5 to 8.5 and containing from about 5% to 25%, based on the weight of the resin, of a catalyst for the

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resole resin, said catalyst selected from the group consisting of an ester functional curing catalyst and a carbamate.

The references of record relied upon by the examiner are:

Stephan (Stephan)	3,705,832	Dec. 12, 1972
Detlefsen et al. (Detlefsen)	4,961,795	Oct. 9, 1990
McVay et al. (McVay)	4,977,231	Dec. 11, 1990
Dailey, Jr. (Dailey)	5,075,414	Dec. 24, 1991

Appealed claims 1-5 and 11-16 stand rejected under 35

U.S.C. § 103 as unpatentable over Dailey. Appealed claims 6, 7, 9, 23, 25, and 26 stand rejected under 35 U.S.C. § 103 as unpatentable over Dailey in view of McVay. Appealed claims 8, 10, 24, and 25 stand rejected under 35 U.S.C. § 103 as unpatentable over Dailey in view of Detlefsen. Appealed claims 11, 16-19, 26, and 27 stand rejected under 35 U.S.C. § 103 as unpatentable over Dailey in view of Stephan.

We sustain the rejections of the appealed composition claims 23-27. We cannot sustain the rejections of the appealed method claims 1-19. Accordingly, the decision of the examiner is affirmed-in-part.

The subject matter on appeal relates to two principal aspects of an invention involving an aqueous adhesive composition composed of a monohydroxylic phenolic resole resin (the resole resin) and a resorcinolic resin precondensate

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having a shortage of formaldehyde (the resorcinolic resin). The first aspect of the invention as presented in appealed claims 1-19 involves a method of preparing an aqueous adhesive composition by mixing first and second components respectively comprised of the resole resin and the resorcinolic resin wherein the quantity of a methylene donor which is a part of the resole resin component and a resole curing catalyst which is a part of the resorcinolic resin component "is sufficient to cause curing of the resin of the other component". See appealed claim 1. Appealed claims 23-27 are directed to an alkaline adhesive composition prepared by the mixing of the first and second resin components referred to above. Thus, the appealed composition claims are "product-by-process" claims.

The examiner's rejections of both the method claims and the composition claims are based principally on the disclosures in Daily. In his final rejection, the examiner correctly characterized the Daily reference as disclosing a method for preparing an adhesive composition by mixing two respective resin components comprising a resole resin and a resorcinolic resin. The examiner also correctly found that

Daily contemplates the addition of a methylene donor to the resin mix<sup>2</sup> and that Daily's composition may include suitable catalysts<sup>3</sup> for the resole resin. However, in stating that Daily differs primarily from the appealed claimed process "in that the methylene donor is not limited to addition via the resole component and the resole catalyst is not limited to addition via the resorcinolic component" (final rejection, page 3, emphasis added), the examiner improperly implied that Daily suggests appellants' claimed method steps A and B in appealed claim 1 which respectively require preparation of a first component including both the resole resin and a methylene donor and a second component including both a resorcinolic resin and a catalyst for the resole resin component. In effect, appellants' invention as defined by the appealed method claims involves the recognition that the "catalyst" for the resorcinolic resin (i.e., the methylene donor) may be precombined with the resole resin to produce a

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<sup>2</sup> See Daily at column 2, lines 53-57; column 4, lines 20-23; and working examples 12-19 at columns 7-10.

<sup>3</sup> See Daily at column 3, lines 46-48 and column 4, lines 15-19.

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stable composition (step A of claim 1), and that a curing catalyst for the resole resin may be precombined with the resorcinolic resin to also obtain a stable composition (step B of claim 1). That it is "notoriously well known in the art to improve stability of a composition and delay onset of cure by keeping the catalyst separate from the resin to be cured until such time as onset of cure is desired" as alleged by the examiner in the final rejection at page 5, is a fact exemplified in the references relied upon by the examiner. See, for example, the Stephan reference at column 2, lines 34-44 and Daily at column 4, lines 20-23. However, as emphasized by appellants in their briefs and above, steps A and B of the appealed method claims require more than merely separating two resins from their respective curing catalyst. Based on the record before us, we find no adequate reason, suggestion, or motivation to modify the Daily mixing process in a manner which corresponds to the herein claimed method. Accordingly, we cannot sustain the examiner's stated rejections of appealed method claims 1-19.

The rejections of appealed composition claims 23-27 are another matter. As pointed out at the oral hearing, these

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product-by-process claims cover an alkaline aqueous adhesive composition which is no more than a mixture of a resole resin, a catalyst for the resole resin (either an ester functional curing catalyst or a carbamate), a resorcinolic resin, and a methylene donor. In this regard, Daily's working examples 12-19 illustrate aqueous alkaline<sup>4</sup> mixed resin compositions made up of the same principal components required by the appealed composition claims. Although, as recognized by the examiner, Daily does not expressly describe or exemplify the specifically claimed resole curing catalysts required by appealed claims 23 and 24 or the specifically claimed methylene donors required by appealed claims 26 and 27, the examiner contends that these recited materials are well known resole curing catalysts and methylene donors<sup>5</sup>, and the "secondary references" to McVay, Detlefsen, and Stephan provide factual support for the examiner's assertions. Thus, McVay and Detlefsen respectively teach that carbamate resole

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<sup>4</sup> See Daily at column 3, lines 53-57.

<sup>5</sup> With respect to the claim 26 methylene donor, methylolurea, appellants have not challenged the examiner's general allegation (answer, page 9) that this compound is a well known methylene donor.

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curing catalysts as specified by claim 25 and carboxylic acid ester, cyclic organic carbonate, and lactone curing catalysts as specified by appealed claim 24 are conventional curing aids used for hardening resole resins when either delayed resole curing, or alternatively, "cure time" decreases are desirable. See the abstract of Delay and column 10, lines 58-68 of Detlefsen respectively. Similarly, Stephan teaches that oxazolidine methylene donors advantageously provide a longer "pot life" or working time when combined with a resorcinolic resin. See Stephan at column 1, lines 64-66. Accordingly, we agree with the examiner that it would have been prima facie obvious to a person of ordinary skill in this art to have utilized these well known resole curing catalysts and resorcinolic resin methylene donors in the resole/resorcinolic resin compositions of Daily motivated by a reasonable expectation that the known advantages attributed to each of these materials would be realized.

Although appellants contend that evidence of unexpected results (in terms of faster cure times for the claimed resin compositions) is present in the record (example 8 and table 8 on page 38 of the specification and the Johnson declaration),

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we note that Detlefsen clearly indicates that ester functional curing agents for resoles provide "accelerated curing". See column 3, lines 39-43 of this reference. Thus, we agree with the examiner that appellants have failed to meet their burden of demonstrating that the achieved results demonstrated by example 8 of the specification would have been considered unexpected by a person of ordinary skill in this art.

Moreover, as observed by the examiner, no claim on appeal is reasonably commensurate in scope with the limited showing of example 8. On balance, we find that the evidence of obviousness for the subject matter defined by the appealed composition claims 23-27 outweighs the evidence of nonobviousness for this subject matter. We, therefore, agree with the examiner's ultimate legal conclusion that this subject matter would have been obvious within the meaning of 35 U.S.C.

§ 103. We thus affirm the examiner's rejections of appealed claims 23-27.

The decision of the examiner is affirmed-in-part.

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

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AFFIRMED-IN-PART

JOHN D. SMITH	)	
Administrative Patent Judge	)	
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	)	BOARD OF PATENT
THOMAS A. WALTZ	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
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PAUL LIEBERMAN	)	
Administrative Patent Judge	)	

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THOMAS P. PAVELKO, ESQUIRE  
STEVENS, DAVIS, MILLER AND MOSHER  
1615 L. STREET, N.W. SUITE 850  
WASHINGTON, D.C. 20036

***Leticia***

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APJ JOHN D. SMITH

APJ LIEBERMAN

APJ WALTZ

DECISION: AFFIRMED  
Send Reference(s): Yes No  
or Translation (s)  
Panel Change: Yes No  
Index Sheet-2901 Rejection(s):

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Prepared: December 15, 2000

Draft                  Final

3 MEM. CONF.    Y                  N

OB/HD                  GAU

PALM / ACTS 2 / BOOK  
DISK (FOIA) / REPORT