

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* DAVE ALLEN SOERENS,  
STEPHEN MICHAEL CAMPBELL, JISHENG SHEN, and  
DAVID WILLIAM KOENIG,

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Appeal 2008-5753  
Application 11/025,317<sup>1</sup>  
Technology Center 1700

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Decided: November 13, 2008

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Before TERRY J. OWENS, MARK NAGUMO, and  
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

NAGUMO, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> Application 11/025,317, *Multi-Purpose Adhesive Composition*, filed 29 December 2004. The specification is referred to as the “317 Specification,” and is cited as “Spec.” The real party in interest is listed as Kimberly-Clark Worldwide, Inc. (*Brief on Appeal to the Board of Patent Appeals and interferences*, filed 20 February 2008 (“Br.”), 1.

## A. Introduction

Dave Allen Soerens, Stephen Michael Campbell, Jisheng Shen, and David William Koenig (“Soerens”) timely appeal under 35 U.S.C. § 134(a) from the final rejection of claims 1-27, which are all of the pending claims. We REVERSE.

The subject matter on appeal relates to an adhesive composition said to be useful in association with absorbent articles in the health, medical, household, and industrial settings.

Claim 1 is representative:

### Claim 1

An adhesive composition comprising  
a water soluble binder polymer and a water-soluble plasticizer;  
wherein

said binder polymer includes about 15-99.8% by weight  
of monoethylenically unsaturated polymer units;

about 0.1-20% by weight polyacrylate ester units that  
include an alkoxy silane functionality; and

about 0.1-75% by weight polymer units selected from  
polyolefin glycol units, polyolefin oxide units, or  
combinations thereof.

(Claims App., Br. 14; indentation and paragraphing added.)

The Examiner has maintained the following rejections:<sup>2</sup>

- A. Claims 1-24 stand rejected under 35 U.S.C. § 112(1) as lacking an adequate written description of the subject matter now claimed.

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<sup>2</sup> Examiner’s Answer mailed 17 April 2008 (“Ans.”)

- B. Claims 1-11, 14, 17-23, and 25-27 stand rejected under 35 U.S.C. § 103(a) in view of Fujita.<sup>3</sup>
- C. Claims 13, 15, and 16 stand rejected under 35 U.S.C. § 103(a) in view of the combined teachings of Fujita and Munro.<sup>4</sup>
- D. Claims 12 and 24 stand rejected under 35 U.S.C. § 103(a) in view of the combined teachings of Fujita, Columbus,<sup>5</sup> and Melancon.<sup>6</sup>

**B. Findings of Fact**

Findings of fact ("FF") throughout this Decision are supported by a preponderance of the evidence of record.

The 317 Specification

- 1. According to the 317 Specification, the invention relates to hydrogel adhesives which comprise at least a binder polymer and a water-soluble plasticizer. (Spec. 2.)
- 2. The binder polymer is said to contain various polar monoethylenically unsaturated units (Spec. 4-5) and poly(meth)acrylate ester units that bear

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<sup>3</sup> Masayuki Fujita et al., *Curable Adhesive Composition*, U.S. Patent Application Publication US 2002/0086942 A1 (2002).

<sup>4</sup> Hugh Semple Munro and Mohammed Yasin, *Bioadhesive Compositions comprising Hydrophobic Polymers*, U.S. Patent Application Publication US 2002/0034492 A1 (2002).

<sup>5</sup> Peter S. Columbus, *Hot and Cold Water Redispersible Polyvinyl Acetate Adhesives*, U.S. Patent 4,251,400 (1981)

<sup>6</sup> Kurt C. Melancon et al., *Pressure Sensitive Adhesive Composition, Articles Made Therewith and Method of Use*, U.S. Patent Application Publication US 2003/0215630 A1 (2002).

alkoxysilane functionalities [RO-Si] which are said to react with water to form silanol groups [Si-OH] (*id.* at 6).

3. The binder polymer further contains polyolefin glycols and polyolefin oxides. (Spec. 7.)

4. The 317 Specification explains that the polyolefin glycol or oxide serves as a backbone in a process called “template polymerization” that tends to align the monomers and to typically increase the chain length of the polymerizing unit. (Spec. 7-8.)

5. The 317 Specification describes an embodiment in which a first aqueous monomer solution containing a reducing polymerization initiator is combined with a second aqueous monomer solution including an oxidizing polymerization initiator, whereupon the ethylenically unsaturated monomers polymerize. (Spec. 9.)

6. One or both monomer solutions may contain a polyolefin glycol or polyolefin oxide template polymer. (Spec. 9.)

7. According to the 317 Specification, “[f]ollowing polymerization of the binder polymer, a water-soluble plasticizer may be added to the binder polymer solution.” (Spec. 10.)

8. Cross linking of the adhesive composition constituents is said to “suitably takes place in the presence of the plasticizer, which creates a three dimensional matrix.” (Spec. 4.)

Fujita

9. Fujita describes compositions said to be useful as curable adhesive compositions.

10. The compositions are said to comprise, as a main component, a vinyl polymer having at least one cross-linkable silyl group, e.g., -Si-OR, where R is hydrogen or alkyl. (Fujita 2: [0016]; 10: [0125]).

11. The adhesive curable composition may further comprise a condensation catalyst. (Fujita 10: [0126].)

12. Other ingredients may include an adhesion promoter,<sup>7</sup> a physical property modifier,<sup>8</sup> a curability modifier,<sup>9</sup> fillers,<sup>10</sup> and, for use as a sealing composition, plasticizers, including polyethylene glycol may be added.<sup>11</sup>

13. According to Fujita, “By mixing up all components and ingredients, said sealing composition may be prepared as a one-component formulation, which is stored in tightly closed containers and, when applied, it absorbs moisture in the air and is thereby cured. (Fujita 11: [0145].

### C. Discussion

The burden is on Soerens, as the Appellant, to demonstrate reversible error in the rejections.

The Examiner finds that claims 1-24 lack an adequate written description for recitation of “water soluble” in claim 1, in that “[t]he preparation of binder polymer in aqueous solution does not necessarily result in the formation of a water soluble polymer.” (Ans. 4.) The Examiner

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<sup>7</sup> Fujita 10:[0128].

<sup>8</sup> Fujita 11:[0132]-[0134].

<sup>9</sup> Fujita 11:[0135].

<sup>10</sup> Fujita 11:[0136].

<sup>11</sup> Fujita 11:[0142]-[0145].

argues further that in Example 1, “water is added to adjust viscosity of the reaction mixture and is not indicative of the water-soluble nature of binder polymer.” (Ans. 9.) Moreover, according to the Examiner, “it is not chemically meaningful to simple say ‘water soluble binder polymer’ without specifying the degree of water solubility.” (Ans. 10.)

These arguments are without merit. The disclosure that “water-soluble plasticizer may be added to the binder polymer *solution*” (Spec. 10; FF 7; emphasis added) supports Soerens’s arguments (Br. 4-5) that water soluble binder polymers are described in the 317 Specification as constituents of the claimed adhesive compositions. The Examiner’s remaining arguments are not supported by evidence or by an explanation of underlying scientific principles. It is well known that viscosity provides a measure of polymer molecular weight, with the caveat that the extrapolated value of molecular weight will depend on the shape of the polymer in solution, which will depend in turn on whether the solvent is a “good” solvent or a “poor” solvent. The concept of “good” and “poor” solvents for polymers is a fundamental part of the knowledge of those skilled in the polymer art. Thus, the Examiner has not established a reasonable basis for the assertion that it is not chemically meaningful to say “water soluble binder polymer,” without further qualification.

The rejection for lack of an adequate written description of the subject matter of claims 1-24 is REVERSED.

Regarding the rejections over prior art, Soerens has substantively argued the rejection in view of Fujita, but has not raised distinct arguments with regard to the other prior art. Accordingly, we confine our consideration

to the adequacy of Fujita, as the remaining rejections stand or fall with the principal rejection.

The Examiner's reliance on Fujita is based on a misapprehension of the teachings of that reference. The Examiner finds that "[w]ith respect to a), Fujita et al [...] teach adhesives with vinyl monomers as the main component . . . the final one-component formulation which comprises the vinyl monomers, monomers with alkoxysilane functionality and polyethylene glycol units when cured would comprise a water soluble binder and water-soluble plasticizer such as polyethylene glycol." (Ans. 5-6.) The one-component composition, however, does not contain monomers: it contains vinyl polymers. (Fujita 10: [0126] -11: [0145]; FF 10-13.) The water soluble plasticizer polyethylene glycol is added to the polymer, not the monomer. (Fujita 11: [0142] - [0145]; FF 12.) The condensation reaction couples siloxy groups to one another, not the siloxy groups to the polyethylene glycol (a polyether). Hence, the polyethylene glycol is not incorporated into the vinyl polymer as a result of the condensation reaction.

Moreover, the Examiner has not directed our attention to any evidence in Fujita that would have directed the person of ordinary skill in the art to select monomers in proportions that would result in a water soluble polymer. Although Soerens' arguments directed at the cross-linking reactions taught by Fujita are irrelevant to the solubility of the polymers prior to cross-linking, the Examiner has not explained how any of the examples, suggested applications, or other disclosures in Fujita would have directed a person to water soluble polymers. Fujita's examples make and use various end-functionalized polybutylmethacrylates, which are relatively nonpolar and which would not be soluble in water. It is not enough, to establish a prima

facie case of obviousness, that monomers such as (meth)acrylic acid are disclosed that could result in water soluble polymers. Although the suggestion need not be express, the *prima facie* case must tell a convincing story that is supported by evidence of record. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) ("rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." Citations omitted; cited with approval, *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). In this case, as Soerens argues, the Examiner has failed to carry that burden.

#### **D. Summary**

In view of the record and the foregoing considerations, it is:

ORDERED that the rejection of claims 1-24 under 35 U.S.C. § 112(1) is REVERSED;

FURTHER ORDERED that the rejection of claims 1-11, 14, 17-23, and 25-27 stand rejected under 35 U.S.C. § 103(a) in view of Fujita is REVERSED;

FURTHER ORDERED that the rejection of claims 13, 15, and 16 under 35 U.S.C. § 103(a) in view of the combined teachings of Fujita and Munro is REVERSED;

FURTHER ORDERED that the rejection of claims 12 and 24 under 35 U.S.C. § 103(a) in view of the combined teachings of Fujita, Columbus, and Melancon is REVERSED.

**REVERSED**

Appeal 2008-5753  
Application 11/025,317

**tc**

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