

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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 CAROLINE M. YILALO, RONALD K. THERY
and RICHARD L. SEVERANCE

Appeal No. 2005-0622
Application 09/911,279

ON BRIEF

Before OWENS, WALTZ and PAWLIKOWSKI, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal is from a rejection of claims 1-33.

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THE INVENTION

The appellants claim an inkjet ink composition containing a specified fluorochemical surfactant. Claim 1 is illustrative and is appended to this decision.

THE REFERENCES

Held	5,852,075	Dec. 22, 1998
Adkins et al. (Adkins)	6,113,679	Sep. 5, 2000
Caiger et al. (Caiger)	6,114,406	Sep. 5, 2000
Savu et al. (Savu) (PCT application)	WO 01/30873 A1	May 3, 2001

THE REJECTIONS

The claims stand rejected under 35 U.S.C. § 103 as follows:
claims 1-13, 18-21, 23 and 26-30 over Held in view of Savu;
claims 1-17, 19-29 and 33 over Caiger in view of Savu; and
claims 31 and 32 over Held or Caiger, in view of Savu and
Adkins.¹

¹ The other rejections in the final rejection are withdrawn in the examiner's answer (page 2).

OPINION

We affirm the aforementioned rejections.

The appellants state that the claims do not stand or fall together (brief, page 12; reply brief, pages 2-3). The appellants, however, regarding the rejection over Held in view of Savu, merely recite what is in claims 21, 23 and 30, and assert that those references do not teach or suggest what is recited, and the appellants point out that claims 2-13, 18-21, 23 and 26-30 recite claim features that are not in claim 1 (brief, page 16). As for the rejection over Caiger in view of Savu, the appellants recite what is in claims 21 and 29 and assert that Caiger and Savu do not teach or suggest what is recited in those claims, and the appellants again point out that claims 2-13, 18-21, 23 and 26-30 recite claim features that are not in claim 1 (brief, page 16).² The appellants do not provide a substantive argument as to why the applied references would have failed to suggest to one of ordinary skill in the art the invention recited in each claim. The appellants' assertions are tantamount to merely pointing out differences in what the claims cover, which

² Although an additional reference is applied in the rejection of claims 31 and 32, the appellants do not argue the separate patentability of those claims.

is not an argument as to why the claims are separately patentable. See 37 CFR § 1.192(c)(7)(1997). The claims, therefore, stand or fall together. Accordingly, we limit our discussion to one claim, i.e., claim 1.

Held discloses an inkjet ink composition comprising an aqueous carrier medium, a colorant, and 2.5-6 wt%, based on the total weight of the ink composition, of a mixture of at least one siloxane surfactant and at least one fluorinated surfactant of the formula $[R(f)Q]_nA$, where R(f) is a perfluoroalkyl group having 6 to 22 carbon atoms, Q is a divalent bridging group, A is a water soluble group, and n is 1 or 2, wherein the siloxane surfactant is present in the amount of 10-75 wt%, based on the total weight of the surfactant mixture (col. 1, lines 41-62).

Caiger discloses a radiation curable inkjet ink composition comprising 80-95 wt%, based on the total composition, of polyfunctional alkoxyated and/or polyfunctional polyalkoxyated acrylate monomer material, a photoinitiator, and optionally other components which can be a colorant and a surfactant (col. 2, lines 15-20; col. 3, lines 19-21 and 41-43). The exemplified surfactant is Fluorad[®] FC430 which, the appellants and the examiner agree, is a C₈ fluorinated surfactant (brief, page 20; answer, page 5).

The appellants acknowledge that Savu, which is assigned to the appellants' assignee, discloses the surfactant recited in claim 1 (brief, page 14).

In order for the appellants' claimed invention to have been *prima facie* obvious to one of ordinary skill in the art over the applied prior art, the applied prior art must be such that it would have provided one of ordinary skill in the art with both a motivation to carry out the claimed invention and a reasonable expectation of success in doing so. See *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991); *In re O'Farrell*, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988).

Savu teaches that the disclosed surfactant derived from nonafluorobutanesulfonyl fluoride has surface activity that rivals those of the homologs made from perfluorooctane segments such as perfluorooctanesulfonyl fluoride, can be produced at lower cost, is potent and, unlike the surfactants derived from perfluorooctanesulfonyl fluoride, is expected to break down into degradation products when exposed to biologic, thermal, oxidative, hydrolytic and photolytic conditions found in the environment (page 2, lines 13-25; page 3, lines 4-12; page 14, lines 4-6). This disclosure would have motivated one of ordinary skill in the art to use Savu's surfactant in the compositions of

Held and Caiger to obtain the disclosed benefits of Savu's surfactant relative to the C₈ fluorinated surfactants of Held and Caiger.

Savu teaches that the disclosed surfactant is useful as a leveling additive for various resist inks for electronics and semiconductors, and for inks such as gravure coat, screen print, thermal print and pen inks (page 25, lines 17-19 and 25). This disclosure would have provided one of ordinary skill in the art with a reasonable expectation of success in using Savu's surfactant in other ink compositions, such as the inkjet ink compositions of Held and Caiger.

The appellants question why one of ordinary skill in the art would have been motivated to substitute Savu's surfactant for those of Held and Caiger, given the disclosures by Held and Caiger that their C₈ surfactants are acceptable, and particularly given the disclosure by Held of using the C₆₋₂₂ fluorinated surfactants in combination with a siloxane surfactant (brief, pages 15-16 and 21; reply brief, page 4). The motivation would have been to obtain the above-discussed benefits disclosed by Savu of using Savu's surfactant instead of a C₈ surfactant.

The appellants argue that one of ordinary skill in the art would not have expected Savu's surfactant to be effective in an inkjet ink composition given Savu's disclosure of the surfactant's ability to form foam when used as an oil well stimulation additive (brief, pages 14-15). The foam is formed by mixing an aqueous solution containing the surfactant with a gas such as carbon dioxide or nitrogen (page 22, lines 15-17), which would not be done when the surfactant is used in an inkjet ink composition. Hence, Savu would have provided one of ordinary skill in the art with a reasonable expectation of success in using Savu's surfactant in an inkjet ink composition. We note that for a *prima facie* case of obviousness to be established, all that is needed is a reasonable expectation of success, not absolute certainty. See *O'Farrell*, 853 F.2d at 903-04, 7 USPQ2d at 1681.

For the above reasons we conclude that a *prima facie* case of obviousness of the appellants' claimed invention has been established and has not been effectively rebutted by the appellants. Accordingly, we affirm the examiner's rejections.

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DECISION

The rejections under 35 U.S.C. § 103 of claims 1-13, 18-21, 23 and 26-30 over Held in view of Savu, claims 1-17, 19-29 and 33 over Caiger in view of Savu, and claims 31 and 32 over Held or Caiger, in view of Savu and Adkins, are affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv).

AFFIRMED

TERRY J. OWENS)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
THOMAS A. WALTZ)	
Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
BEVERLY A. PAWLIKOWSKI)	
Administrative Patent Judge)	

TJO/ki

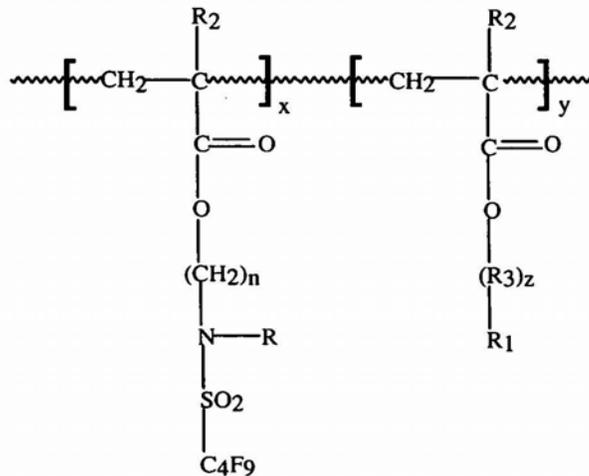
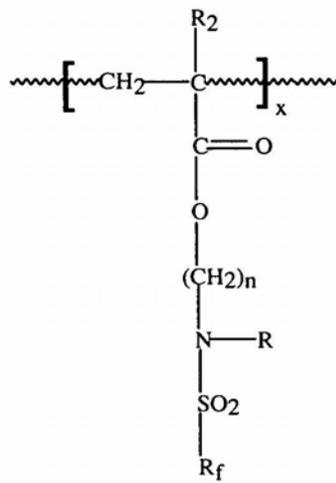
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3M Innovative Properties Company
P.O. Box 33427
St. Paul, MN 55133-3427

1. An inkjet ink composition comprising:

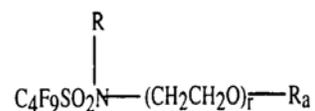
- a colorant;
- a vehicle; and
- a fluorochemical surfactant;

wherein the fluorochemical surfactant comprises one or more surfactants having one or more chemical structures selected from:



and

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wherein

~~~~~ represents a bond in a polymer chain;

R<sub>f</sub> is -C<sub>4</sub>F<sub>9</sub> or -C<sub>3</sub>F<sub>7</sub>;

R, R<sub>1</sub>, R<sub>2</sub> and R<sub>a</sub> are each independently hydrogen or alkyl groups having 1 to 4 carbon atoms;

R<sub>3</sub> comprises one or more straight or branched polyalkylene-oxy groups having 2 to 6 carbon atoms in each group;

n is an integer from 2 to 10;

x, y and z are integers of at least 1; and

r is an integer of 2 to 20.