

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

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* NOBUO KAIFU and  
HIROSHI SATOH

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Appeal 2006-2516  
Application 10/191,449  
Technology Center 1700

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Decided: October 31, 2006

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Before OWENS, WALTZ, and GAUDETTE, *Administrative Patent Judges*.  
GAUDETTE, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal involves claims 10-13, the only claims pending in this application. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 134.

## INTRODUCTION

The claims are directed to a peel treating agent. According to Appellants, the presence of bisurea in a peel treating agent can decrease the adhesive force when the peel-treating agent containing the bisurea is coated on the back side of a tape opposed to the adhesive agent. Moreover, higher contents of bisurea can disrupt the process of preparing such a product by creating undesirably high amounts of precipitate in the storage tank of the process, particularly if the temperature of the storage tank is lowered.

Appellants maintain that they have discovered that by adjusting the particle size of the ethylene/vinyl alcohol copolymer or polyvinyl alcohol to be at most 10 mesh, the resulting product peel treating agent contains at most 3 wt% of bisurea, thus providing a superior final product.

Claim 10 is illustrative of the invention and is reproduced below:

10. A peel-treating agent comprising a reaction product of an aliphatic isocyanate having an aliphatic group of at least 8 carbon number with an ethylene/vinyl alcohol copolymer or polyvinyl alcohol, as an effective component, wherein a bisurea form content in the reaction product is at most 3 wt%, wherein the ethylene/vinyl alcohol copolymer or polyvinyl alcohol has a particle size no larger than particles that would pass through a sieve of size 10 mesh.

The Examiner relies on the following prior art references to show unpatentability:

Halpern	US 3,052,652	Sep. 4, 1962
Kumagai	JP 55-142096	Nov. 6, 1980

The sole ground of rejection is as follows:

Claims 10-13 are rejected under 35 U.S.C § 103(a) as unpatentable over Kumagai in view of Halpern.

We reverse.

### OPINION

The Examiner relies on Kumagai for a disclosure of a releasing agent (peel-treating agent) which is a reaction product of an ethylene/vinyl alcohol copolymer and an alkylisocyanate having at least 8 carbon atoms. (Answer 3). The Examiner maintains that Kumagai's use of xylene as the solvent in the process of making the releasing agent would virtually eliminate the bisurea by-product, since bisurea is a by-product produced in the presence of water. *Id.* The Examiner relies on Halpern to illustrate that it is conventional to use polyvinyl alcohol particles of size 80 mesh or smaller in order to effect more uniform dispersion of the particles in the solvent and to provide more surface area for reaction with the isocyanate. *Id* at 4. The Examiner maintains that the result of using smaller particles would be a higher yield of polyurethane and less bisurea by-product. *Id.*

Appellants argue that merely selecting an ethylene/vinyl alcohol copolymer or polyvinyl alcohol starting material for production of the polyurethane (without reference to any controlling of the particle size) is not sufficient to ensure production of a product having the claimed low levels of bisurea. (Br. 5). Appellants direct us to Example 1 and Comparative Example 1 of the present application as evidence that a product produced using Kumagai's method would not inherently be the same as the presently claimed peel-treating agent. According to Appellants, Example 1 and Comparative Example 1 of the present Specification "are the definitive test

of the effect of controlling the particle size as required by the present invention,” since both examples are performed under identical conditions, the only difference being the pre-sieving of the Example 1 ethylene/vinyl alcohol copolymer to control its particle size. *Id.* at 4. Appellants note that there is no detectable bisurea content in the final product of Example 1. *Id.* In contrast, the final product of Comparative Example 1 contains 4 wt% of bisurea. *Id.*

Appellants further rely on these examples to disprove the Examiner’s assertion that use of a xylene solvent would yield a final product having a low level of bisurea. Appellants point out that the solvent used in the examples was toluene, which is similar to xylene in that it is also immiscible with water and, therefore, would have essentially no water present in the solvent. (Reply 2). The starting materials in the examples also underwent the identical dehydration step of refluxing for 2 hours to remove water. *Id.* According to Appellants, the difference in bisurea content in Example 1 and Comparative Example 1 establish that the controlling parameter in reducing bisurea by-product is not the solvent and its immiscibility with water, but the presieving of the polymer to control particle size which provides significantly more effective dehydration of the reaction mixture. *Id.*

We find Appellants’ arguments and evidence in support thereof persuasive in establishing that control of particle size of the ethylene/vinyl alcohol copolymer or polyvinyl alcohol in a reaction with an aliphatic isocyanate as claimed provides an unexpected reduction of bisurea content in the final product. The Examiner does not attempt to refute and, in fact, it is unclear whether he has even considered (Br. 5) Appellants’ evidence of nonobviousness. *See In re Dow Chemical Co.*, 837 F.2d 469, 473,

5 USPQ2d 1529, 1532 (Fed. Cir. 1988) ("Evidence that supports, rather than negates, patentability must be fairly considered."). Therefore, we conclude that the appealed claims are patentable over the combined teachings of Kumagai and Halpern<sup>1</sup>. The rejection is reversed.

REVERSED

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<sup>1</sup> For the sake of completeness, we note that during oral hearing, Appellants' counsel also argued that the Examiner had relied upon improper hindsight reasoning and, therefore, had not established a prima facie showing of obviousness. In particular, it was noted that the Examiner failed to explain why one of ordinary skill in the art, in considering the problem of bisurea by-product formation, would have looked to Halpern which discloses alkoxylation of PVA, acetylation and reaction with isocyanate to produce a product which is said to be useful in the manufacture of foam products. In addition, the Examiner did not explain why one of ordinary skill in the art would apply Halpern's teaching relating to polyvinyl alcohol particle sizes to Kumagai's ethylene/vinyl alcohol copolymer. We are in agreement with Appellants that the only relationship between an ethylene/vinyl alcohol copolymer and polyvinyl alcohol appears to emanate from Appellants' disclosure. *In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-74 (Fed. Cir. 1992) ("The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification."). However, we do not find this argument on the written record before us.