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GRESO, AARON J

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte AMY S. WYLIE, CAROL L. KINNEY,
RICHARD R. ROESLER, and RONALD G. ERITANO

Appeal 2011-013695
Application 11/985,905
Technology Center 1700

Before CATHERINE Q. TIMM, MICHAEL P. COLAIANNI, and DEBORAH KATZ, *Administrative Patent Judges*.

COLAIANNI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 the final rejection of claims 1-17. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

We AFFIRM.

Appellants' invention is directed to an aqueous coating composition comprising the reaction product of a hydrophobic, fluorine-functional polyisocyanate and an aqueous hydroxy-functional polyisocyanate, and a process for producing the aqueous coating composition (Spec. 1:1-6).

Claim 1 is illustrative:

1. An aqueous coating composition comprising the reaction product of

A) a hydrophobic polyisocyanate mixture

i) having an NCO content of 5 to 35% by weight and a monomeric diisocyanate content of less than 3% by weight, and prepared from a polyisocyanate adduct,

ii) containing allophanate groups in an amount such that there are more equilvalents of allophanate groups than urethane groups and

iii) containing fluorine (calculated as F, AW 19) in an amount of 0.001 to 50% by weight,

wherein the preceding percentages are based on the solids content of the polyisocyanate mixture and wherein fluorine is incorporated by reacting an isocyanate group with a compound containing two or more carbon atoms, one or more hydroxyl groups and one or more fluorine atoms, and

B) an aqueous, hydroxyl functional polyurethane dispersion.

Appellants appeal the following rejections:

1. Claims 1, 3-5, 7, 8, 10-13, and 15-17 are rejected under 35 U.S.C. § 103(a), as being unpatentable over Nolte (US 2004/0249105 A1published Dec. 9,2004) in view of Roesler (US 2006/0223970 A1 published Oct. 5, 2006).
2. Claims 2, 6, 9, and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nolte in view of Roesler and Jacobs (US 5,194,487 patented Mar. 16, 1993).

Regarding rejection (1), Appellants argue claims 1-17 as a group, from which we select claim 1 as representative (App. Br. 4-5).

REJECTION (1): Claim 1

ISSUE

Did the Examiner reversibly err in concluding that it would have been obvious to substitute Roesler's hydrophobic polyurethane for the hydrophobic polyurethane in Nolte's two-component polyurethane coating? We decide this issue in the negative.

FINDINGS OF FACT AND ANALYSES

The Examiner's findings and conclusions may be located on pages 4-6 and 7-9 of the Answer. The Examiner finds that Nolte teaches a two-component coating system that includes an aqueous polyurethane comprising isocyanate-reactive groups (OH functionality) and a polyisocyanate (Ans. 4). The Examiner finds that Nolte does not disclose that the polyisocyanate has external modifiers or is chemically modified such that Nolte's polyisocyanate may be considered a hydrophobic polyisocyanate (Ans. 4). The Examiner finds that Nolte does not teach the claimed hydrophobic polyisocyanate mixture, but the Examiner finds that Roesler teaches polyisocyanate mixtures which may be used as the polyisocyanate component in two-component aqueous coating compositions (Ans. 5). The Examiner finds that Roesler teaches that the polyisocyanate component has the claimed requirements (i) to (iii) for the hydrophobic polyisocyanate (Ans. 5-6). The Examiner concludes that it would have been obvious to substitute Roesler's hydrophobic polyisocyanate mixture for the

hydrophobic polyisocyanate in Nolte's two-component system because the polyisocyanates are equivalents and doing so would have made a coating with a smooth surface as taught by Roesler (Ans. 6).

Appellants argue that, unlike the claimed coating compositions that are achieved without special mixing techniques, Nolte uses a special homogenizing mixer to combine the hydrophobic polyisocyanate and aqueous isocyanate to form a stable coating blend (App. Br. 4-5). Appellants contend that the Examiner concedes that Roesler teaches hydrophilizing the hydrophobic polyisocyanate using external emuslifiers and thus Roesler teaches away from the use of polyisocyanates without the use of external emulsifiers (App. Br. 5).

A preponderance of evidence favors the Examiner's obviousness conclusion. Appellants' argument that Roesler teaches away from the use of polyisocyanates without the use of external emulsifiers misses the fact that Roesler discloses that to be useful in the aqueous coating compositions the polyisocyanates "may" be rendered hydrophilic (Roesler para. [0056]). We do not discern Roesler as teaching away from using hydrophobic polyisocyanates in aqueous coatings as alleged by Appellants. Rather, Roesler teaches that hydrophilizing the hydrophobic polyisocyanate is one way to incorporate the hydrophobic polyisocyanate into an aqueous composition. As argued by Appellants, Nolte teaches that homogenizing the hydrophobic polyisocyanate and aqueous composition is another way to incorporate hydrophobic polyisocyanate into an aqueous composition without necessarily using external emulsifiers.

Appellants' focus on the method used by the prior art to mix the components is not persuasive because claim 1 is directed to a composition,

which is not limited by the method[1]. Moreover, the Examiner's stated rejection is based, in part, on a finding of equivalency of Nolte's and Roesler's hydrophobic polyisocyanate, which is not specifically contested by Appellants (App. Br. 4-6). Indeed, this combination appears to be nothing more than the predictable use of prior art elements (i.e., hydrophobic polyisocyanates) according to their established functions (i.e., use in aqueous coating compositions). *KSR Int'l Co. v. Teleflex Inc.*, 550 US 398, 417 (2007).

Appellants contend that the teachings of Nolte and Roesler would have lead one of ordinary skill in the art to investigate alternative techniques to achieve a stable formulation of hydrophobic polyisocyanate and aqueous polyurethane dispersion and the teachings would not have suggested that a stable formulation may be made simply as a result of raw materials (App. Br. 5). However, the Examiner reasons that one of ordinary skill in the art would have substituted Roesler's hydrophobic polyisocyanate for Nolte's hydrophobic polyisocyanate based on equivalency of the polyisocyanates and to form a smoother coating as taught by Roesler (Ans. 6). That Nolte and Roesler did not recognize Appellants' argued reason for making the combination does not diminish the fact that the teachings of Roesler and Nolte would have suggested other reasons for combining the prior art teachings to arrive at the claimed invention. *KSR*, 55 US at 420 ("[A]ny need or problem know in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed."). We agree that the teachings of Nolte and Roesler

[1] Claim 17 is directed to the method of making the composition but that claim does not limit how the two components of the composition are combined in the "combining" step.

would have suggested the substitution of one hydrophobic polyisocyanate for another hydrophobic polyisocyanate for the reasons noted by the Examiner *supra*.

Regarding rejection (2), Appellants rely on arguments made regarding rejection (1) and simply argue that Jacobs does not supply any teaching above that of Nolte and Roesler regarding the ability to achieve a stable formulation with a hydrophobic polyisocyanate and an aqueous polyurethane dispersion and would not have led one to believe such a formulation may be made simply as a result of raw materials (App. Br. 6). These arguments are unpersuasive for the reasons discussed above.

On this record, we affirm the Examiner's § 103 rejections (1) and (2).

DECISION

The Examiner's decision is affirmed.

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

ORDER

AFFIRMED

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