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## United States Court of Appeals for the Federal Circuit

00-1139

(Reexamination No. 90/004,812)

IN RE WAKO PURE CHEMICAL INDUSTRIES LTD.

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DECIDED: February 1, 2001

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Before CLEVINGER, SCHALL, and DYK, Circuit Judges.

SCHALL, Circuit Judge.

### DECISION

This is an appeal from a decision of the Board of Patent Appeals and Interferences ("Board") of the U.S. Patent and Trademark Office ("PTO"). The appeal arises out of the reexamination of U.S. Patent No. 5,216,135 issued to Urano et al. ("Urano patent"). In the reexamination, the

Board sustained the examiner's rejection of claims 1 and 4-6 under 35 U.S.C. §§ 102(e) and 103(a) over U.S. Patent No. 5,338,641, issued to Pawlowski et al. ("Pawlowski patent"). Wako Chemical Industries, Ltd. ("Wako") is the assignee of the Urano patent. On appeal, it concedes that the Pawlowski patent discloses the subject matter of the claims at issue. However, Wako argues that the claims at issue are not anticipated by the Pawlowski patent because, according to Wako, the claims are entitled to a priority date from Urano's earlier Japanese patent application, JP 2-019614, under 35 U.S.C. § 119. The Board rejected this contention, determining that Wako is not entitled to the priority date of the foreign application because the application lacks sufficient written description of the invention to satisfy the requirements of 35 U.S.C. § 112, ¶ 1. We affirm.

## DISCUSSION

### I.

The first paragraph of 35 U.S.C. § 112 states: "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same." 35 U.S.C. § 112, ¶ 1 (1994). In a written description case, the "primary consideration is factual and depends on the nature of the invention and the amount of knowledge imparted to those skilled in the art by the disclosure." Union Oil Co. of Cal. v. Atlantic Richfield Co., 208 F.3d 989, 996, 54 USPQ2d 1224, 1232 (Fed. Cir. 2000) (quoting In re Wertheim, 541 F.2d 257, 262, 191 USPQ 90, 96 (CCPA 1976)). An analysis of the adequacy of a disclosure begins with a direct comparison of the claims to the disclosure in the priority document. If the claim language is not expressly supported by the disclosure, then the language of the priority document must be analyzed for what it conveys to one skilled in the art. Ralston Purina v. Far-Mar-Co., Inc., 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985). The written description requirement does not dictate that the applicant describe the invention exactly. Rather, what is required is that, as of the filing date, the inventor convey with reasonable clarity to those skilled in the art that the inventor was in possession of the subject matter claimed. See Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). We review the Board's decision on whether the disclosure of the Japanese patent application has a written description that supports claims 1 and 4-6 of the Urano patent for substantial evidence. See Dickinson v. Zurko, 527 U.S. 150, 152 (1999); In re Gartside, 203 F.3d 1305, 1313, 53 USPQ2d 1769, 1773-74 (Fed. Cir. 2000).

### II.

The Urano patent is directed to compounds for use in manufacturing semiconductor devices. The patent claims diazodisulfone compounds that are useful as photosensitive material that generates acid upon irradiation. Claim 1 of the Urano patent reads: "A diazodisulfone compound of the formula:



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N<sub>2</sub>

wherein R<sup>1</sup> is a branched or cyclic alkyl group having 3 to 8 carbon atoms; and R<sup>2</sup> is a straight-chained, branched or cyclic alkyl group having 1 to 8 carbon atoms." Urano Patent, col. 14, ll. 31-39. Claim 4 of the Urano patent similarly recites: "A diazodisulfone compound of the formula



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N<sub>2</sub>

wherein R<sup>1</sup> is a branched or cyclic alkyl group having 3 to 8 carbon atoms; and R<sup>2</sup> is a branched or cyclic alkyl group having 3 to 8 carbon atoms." *Id.* at col. 14, ll. 60-68. Both claims are based on the same chemical structure, wherein R<sup>1</sup> and R<sup>2</sup> represent variables, moieties that change in accordance with the specific parameters of the claim language. For example, the compound of claim 1 can be any compound wherein R<sup>1</sup> is a branched or cyclic chain of carbon atoms that has anywhere between 3 and 8 carbon atoms in the chain. Claims 5 and 6 depend from claim 4. *Id.* at col. 15, l. 1 – col. 16, l. 5.

The Japanese patent application discloses compounds based on the exact same chemical structure, but describes R<sup>1</sup> and R<sup>2</sup> differently. R<sup>1</sup> and R<sup>2</sup> are described in the application as being independently chosen from one of seven categories: 1) C<sub>1-10</sub> straight-chain, branched or cyclic alkyl group; 2) C<sub>1-10</sub> haloalkyl group; 3) C<sub>2-10</sub> alkenyl group; 4) C<sub>2-10</sub> phenyl group; 5) C<sub>2-10</sub> substituted phenyl group (with substitutional group of halogen atom, C<sub>1-10</sub> straight-chain, branched or cyclic alkyl group, C<sub>1-10</sub> straight-chain or branched alkoxy group, C<sub>1-10</sub> haloalkyl group, nitro group, nitrile group or amido group); 6) C<sub>2-10</sub> aralkyl group; or 7) C<sub>2-10</sub> substituted aralkyl group (with substitutional group of halogen atom, C<sub>1-10</sub> straight-chain, branched or cyclic alkyl group, C<sub>1-10</sub> straight-chain or branched alkoxy group, C<sub>1-10</sub> haloalkyl group, nitro group, nitrile group or amido group).

Only the first of the above categories is at issue in this case. The language of that category indicates that the invention of the Japanese application is a compound wherein R<sup>1</sup> and R<sup>2</sup> are moieties that contain anywhere from one to ten single-bonded carbon atoms in a chain. While the Urano patent claims the same basic structure of the diazodisulfone, in contrast to the Japanese application, it does not describe R<sup>1</sup> and R<sup>2</sup> as being selected specifically from category one, the C<sub>1-10</sub> straight-chain, branched or cyclic alkyl group. Rather, claims 1 and 4 of the Urano patent each claim only a subset of this category. In the Japanese application, R<sup>1</sup> and R<sup>2</sup> are 1-10 carbons long. In claim 1 of the Urano patent, R<sup>1</sup> is 3-8 carbons long and R<sup>2</sup> is 1-8 carbons long. Additionally, R<sup>1</sup> in the Urano patent cannot be a straight carbon chain; it must be branched or cyclic. Similarly, in claim 4 of the Urano patent, neither R<sup>1</sup> nor R<sup>2</sup> can be straight-chained, and both are limited to 3-8 carbons out of the possible ten described in the Japanese application.

The issue before us is whether a written description that discloses seven possible categories

for a moiety in a basic chemical structure can support a claim that recites only a narrow subset of one of those categories, specifically, category one. Wako argues that the broad disclosure of the Japanese application expressly supports the narrower claims of the Urano patent. According to Wako, by definition, the claimed range falls squarely within the language of the priority document. For example, Wako emphasizes that the claim of "branched or cyclic alkyl groups" falls squarely within the disclosure of "straight-chain, branched or cyclic alkyl groups" in the Japanese application. Additionally, Wako relies on the Japanese application's working example of one straight-chained and one cyclic carbon chain as implicit, if not express, support for the Urano patent's narrow claim ranges.

The PTO responds that, while it is true that the broad disclosure of the Japanese application technically includes the moieties taught by the claims, § 112, ¶ 1 requires more than a laundry list of possible moieties to support a narrow claim. According to the PTO, the disclosure must reasonably guide one skilled in the art to select the specific subsets of moieties recited in the patent's claims. For example, the PTO asserts that the Japanese written description must contain some statement that will direct a skilled artisan to select a carbon chain that is no shorter than three carbons and no longer than eight carbons for the R<sup>1</sup> moiety recited in claim 1.

### III.

Certain cases are instructive with respect to the scope of the written description requirement. In In re Ruschig, 54 CCPA 1551, 154 USPQ 118 (CCPA 1967), the Court of Customs and Patent Appeals affirmed the holding of the Patent Office Board of Appeals that one of the claims of the patent application at issue was not supported by the application's disclosure. The claim at issue was directed to a single compound. The specification disclosed a compound with three moieties, R, R1, and R2, and subsequently listed a myriad of different chemical compounds from which to choose for each of the variables. As the court noted: "[T]he general disclosure of the application encompasses something like half a million possible compounds." Id. at 1555, 154 USPQ at 121. The court determined that the broad disclosure did not adequately support the narrow subgenus:

Specific claims to single compounds require reasonably specific supporting disclosure and while we agree with the appellants, that naming is not essential, something more than the disclosure of a class of 1000, or 100, or even 48, compounds is required. Surely, given time, a chemist could name (especially with the aid of a computer) all of the half million compounds within the scope of the broadest claim, which claim is supported by the broad disclosure. This does not constitute support for each compound when separately claimed.

Id. at 1556, 154 USPQ at 122. The court required more specific guidance to direct the reader of the patent specification to the claimed compound in order to satisfy § 112. In Ruschig, the court announced the now-famous metaphor that a sufficient disclosure is one that marks a trail through the woods by supplying blaze marks on the trees. Id. at 1557, 154 USPQ at 122. In other words, in a patent application, one cannot disclose a forest but then later claim a particular tree as the invention.

In contrast, in In re Driscoll, 562 F.2d 1245, 195 USPQ 434 (CCPA 1977), the Court of

Customs and Patent Appeals did find adequate blaze marks in the disclosure to guide one skilled in the art to the claimed invention. The invention in Driscoll was a chemical compound with three variables, R, R<sup>1</sup>, and R<sup>2</sup>. The claim language recited that R<sup>1</sup> and R<sup>2</sup> each were to be chosen from only one of the fourteen possible categories of organic compounds disclosed in the priority document. The examiner rejected the claim, stating that the written description requirement was not satisfied in the absence of a guide to direct a person to the specific claimed genus of the priority document, and the inventor appealed the rejection. See id. at 1248, 195 USPQ at 436. On appeal, the Court of Customs and Patent Appeals reversed on the grounds that Ex Parte Markush, 1925 C.D. 126 (Comm'r Pat. 1925), sanctioned the practice of listing many possible alternative structures usable for an invention and then claiming just one of the possible structures as the invention. Driscoll, 562 F.2d at 1249, 195 USPQ at 437. The court distinguished Ruschig "because the structural formula there relied on could have described, at best, only a subgenus including the specific compound claimed, and not the compound itself. In this respect, Ruschig is readily distinguishable from the present case where the exact subgenus claimed is clearly discernible in the generalized formula of the thiadiazole urea set forth in the earlier filed application." Id. at 1250, 195 USPQ at 438.

Wako would be the same case as Driscoll if Urano had claimed the entire C<sub>1-10</sub> straight-chain, branched or cyclic alkyl genus in category one of the Markush groups listed in the Japanese application. However, Urano claimed only a subset of the first category disclosed in the Japanese application. In this case, as in Ruschig, the end-points of the recited range are not disclosed in the Japanese application; there is no indication in the disclosure of the Japanese application, for example, that the invention involves an R<sup>1</sup> moiety of three to eight carbon atoms, as opposed to one to ten. Because nothing in the disclosure leads one skilled in the art to select moieties having the specific 3-8 range of carbon atoms recited in the Urano claims, the disclosure does not satisfy the requirement § 112, ¶ 1. Substantial evidence supports the Board's finding that "guidance to make the particular selections chosen by the appellant, rather than making any other selection, is not found in the Japanese application."

Wako argues that there are guides in the Japanese application that would aid a person skilled in the art to select the claimed end-points. Specifically, Wako contends that the disclosure's reference to "propyl" (indicating three carbon atoms) and "octyl" (indicating eight carbon atoms) groups provide express support for the claimed range of carbon atoms. We disagree. As we stated in Fujikawa v. Wattanasin, 93 F.3d 1559, 39 USPQ2d 1895 (Fed. Cir. 1996), "just because a moiety is listed as one possible choice for one position does not mean that there is *ipsis verbis* support for every species or subgenus that chooses that moiety. Were this the case, a 'laundry list' disclosure of every possible moiety for every possible position would constitute a written description of every species in the genus." Id. at 1571, 39 USPQ2d at 1905. Next, Wako relies on the Japanese application's Working Example 1, which describes a diazodisulfone compound where the R<sup>1</sup> moiety is a methyl group and the R<sup>2</sup> moiety is a methylphenyl group. This, example, however, is outside the scope of compounds recited in the claim, and also falls outside of the Japanese application's disclosure of category one compounds.

For the foregoing reasons, the decision of the Board of Patent Appeals and Interferences is affirmed.

Each party shall bear its own costs.