

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

MEXICHEM AMANCO HOLDINGS S.A. de C.V.,  
Petitioner,

v.

HONEYWELL INTERNATIONAL, INC.,  
Patent Owner.

---

Case IPR2013-00576  
Patent 8,444,874 B2

---

Before LINDA M. GAUDETTE, FRANCISCO C. PRATS, and  
JACQUELINE WRIGHT BONILLA, *Administrative Patent Judges*.

BONILLA, *Administrative Patent Judge*.

DECISION  
Denying Petitioner's Request for Rehearing  
*37 C.F.R. § 42.71(d)*

## I. INTRODUCTION

Mexichem Amanco Holdings S.A. de C.V. (“Petitioner”) filed a Request for Rehearing (Paper 53, “Req. Reh’g” or “Request”) of our Final Decision (Paper 50, “Final Dec.”).

In our Final Decision, we concluded that Petitioner demonstrated by a preponderance of the evidence that claims 1 and 3–15, but not claim 2, of U.S. Patent No. 8,444,874 B2 (Ex. 1001, “the ’874 patent”) were unpatentable. Final Dec. 3, 32. Petitioner requests a rehearing as to our holding that it had not established by a preponderance of the evidence that claim 2 of the ’874 patent would have been obvious over Inagaki,<sup>1</sup> Konzo,<sup>2</sup> and Bivens,<sup>3</sup> under 35 U.S.C. § 103. Req. Reh’g 1.

For the reasons discussed below, we deny Petitioner’s Request for Rehearing.

## II. ANALYSIS

In a request for rehearing, a dissatisfied party “must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in a motion, an opposition, or a reply.” 37 C.F.R. § 42.71(d).

Claim 2 recites that the heat transfer composition of claim 1 “comprises at least about 90% by weight of trans-1,3,3,3-tetrafluoropropene.” Ex. 1001, 30:2–

---

<sup>1</sup> Inagaki et al., JP-04-110388, published April 10, 1992 (“Inagaki”) (Ex. 1002) (English translation Ex. 1003, Ex. 1068).

<sup>2</sup> Konzo et al., “Winter Air Conditioning,” (The Industrial Press 1958), pp. 590–596 (“Konzo”) (Ex. 1004).

<sup>3</sup> Bivens et al., U.S. Pat. No. 6,783,691 B1, issued Aug. 31, 2004 (“Bivens”) (Ex. 1005).

15. In its Request regarding claim 2, Petitioner contends that we:

(1) “misapprehended facts” in relation to Dr. Stuart Corr’s testimony regarding Inagaki (Req. Reh’g 1–5); and (2) “misapplied the law with respect to whether or not the recited percentage of the HFO and/or POE lubricant outlined in claim 2 is patentable” (*id.* at 5–10).

Regarding its first contention, Petitioner notes that in our Final Decision, we referred to Dr. Corr’s testimony as indicating that one reading Inagaki “would view the reference as disclosing ‘80 percent trans 1234ze and 20 percent cis 1234ze’” but not “all the way from 80 percent up to 90 percent,” based on the boiling point of -16 °C of a relevant embodiment (Embodiment II), as disclosed in Inagaki. *Id.* at 1 (citing Final Dec. 27 (relating to Ex. 2020, 249:7-250:2, quoted in Patent Owner Response, Paper 21, 55–56)). Petitioner contends that, contrary to our statement that “Petitioner does not dispute Dr. Corr’s statement in this regard,” it disputed this statement on page 12 of its Reply (Paper 27). *Id.* at 1–3. Specifically, Petitioner points to where it quoted Dr. Corr’s testimony as stating that “the teachings of Inagaki were not limited to an 80% amount of the trans isomer.” *Id.* at 2–3 (quoting Reply, Paper 27, 12).

Along these lines, Petitioner also contends that we relied on Patent Owner’s incorrect interpretation of Dr. Corr’s testimony. *Id.* at 3–4. Petitioner further argues that Dr. Corr’s testimony indicates “an acknowledgement that Inagakai would lead to other attempts at using a fluid that was principally trans-1234ze in combination with a lubricant, not that only an 80/20 (trans/cis) blend in combination with a lubricant would work.” *Id.* at 4.

Those arguments in the Request miss a point we made in our Final Decision. As indicated in our Decision, we were not persuaded, based on evidence before us, including Dr. Corr’s testimony, that Inagaki alone, or combination with Konzo and

Bivens, taught or suggested isolating or purifying a trans-isomer in particular from Embodiment II. Final Dec. 27–28. Thus, we were not persuaded that the cited references taught or suggested obtaining “at least about 90% by weight” of the specific trans-isomer of Embodiment II in Inagaki. *Id.* We concluded that Petitioner had not established sufficiently that the cited references taught or suggested the additional step of purifying a trans-isomer, or that purifying the relevant trans-isomer to at least 90% by weight would have corresponded to “routine optimization.” *Id.* Petitioner’s assertions in its Request regarding Dr. Corr’s testimony do not persuade us otherwise.

Regarding its second contention, Petitioner refers to our discussion of *In re Aller*, 220 F.2d 454, 456 (CCPA 1955), in our Institution Decision. Req. Reh’g 5–7 (citing Institution Decision, Paper 13, 16–18). Specifically, Petitioner points to our statement that, for the purposes of institution, we were persuaded “the ’874 patent provides evidence that the amount of HFO-1234 is not critical to the function of the heat transfer composition/fluid in the recited methods of transferring heat.” Req. Reh’g 6 (quoting Paper 13, 18). Petitioner goes on to argue that, in our Final Decision, we do “not identify any criticality as to specific percentage weights of HFO or polyol ester lubricant,” and, therefore, we must conclude that claim 2 is unpatentable over cited prior art, consistent with *In re Aller*. *Id.* at 7–10.

As noted in our Institution Decision, *In re Aller* sets out the general rule that discovery of an optimum value of a variable in a known process is normally obvious. Paper 13, 15 (citing *In re Aller*, 220 F.2d at 456). As we also noted, exceptions to that general rule exist where: (1) the variable to be optimized was not recognized as a “result-effective” variable; or (2) results of optimizing the

variable, even if known to be result-effective, produced a new and unexpected result. *Id.* (citing, *inter alia*, *In re Antonie*, 559 F.2d 618, 620 (CCPA 1977)).

Here, as explained in our Final Decision, Petitioner did not establish sufficiently that Inagaki disclosed or suggested purifying a particular isomer of Embodiment II at all. Rather, Petitioner established sufficiently that Embodiment II, as evidenced by the disclosed boiling point for that embodiment in Inagaki, inherently included approximately 80% trans-isomer and 20% cis-isomer. Based on such evidence and evidence in the record overall, we concluded that Petitioner had shown sufficiently that certain challenged claims (e.g., claim 4, reciting “about 5% by weight to about 95% by weight” of the trans-isomer) were unpatentable over cited art.

Because Petitioner did not establish sufficiently that any of the cited references taught or suggested purifying the trans-isomer of Embodiment II in Inagaki, we were not persuaded that purification, or selection of certain percentages of the trans-isomer and cis-isomer, would have been “routine optimization” of amounts of known result-effective variables. In short, Petitioner did not establish sufficiently that an ordinary artisan would have thought to “optimize” the percentages of trans-isomer and cis-isomer in the first place, i.e., that one understood that percentages of isomers were result-effective variables, much less aim for at least 90% of the trans-isomer. Petitioner’s arguments in its Request do not persuade us otherwise.

In addition, we are not persuaded by Petitioner’s contention that we imported “a step (purification) into claim 2 that does not actually appear in the patent.” Req. Reh’g 7. In our Final Decision, we did not suggest that claim 2 required a purification step, only that the claim required a composition comprising “at least about 90% by weight of trans-1,3,3,3-tetrafluoropropene,” as recited. The

issue was whether that composition would have been obvious to an ordinary artisan over cited prior art. As discussed above, we remain persuaded that Petitioner did not meet its burden of proof in this regard.

For the reasons discussed above, we are not persuaded that we misapprehended or overlooked evidence referenced in Petitioner's Request for Rehearing. Nor are we persuaded that we misapplied the law, such as *In re Aller*, when considering whether Petitioner established by a preponderance of the evidence that claim 2 was unpatentable over cited prior art.

### III. CONCLUSION

We deny Petitioner's Request for Rehearing.

IPR2013-00576  
Patent 8,444,874 B2

For PETITIONER:

Patrick J. Fleis  
Joseph A. Kromholz  
Ryan Kromholz & Manion, S.C.  
IPR@rkmiplaw.com

For PATENT OWNER:

Joseph M. Skerpon  
Joseph J. Berghammer  
Banner & Witcoff, Ltd.  
jskerpon@bannerwitcoff.com  
jberghammerr@bannerwitcoff.com