

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF KANSAS

LAYNE CHRISTENSEN COMPANY and)
DR. ARUP K. SENGUPTA)

Plaintiffs,)

v.)

Case No. 09-2381-JWL

BRO-TECH CORPORATION,)
d/b/a THE PUROLITE COMPANY,)

Defendant.)

_____)

MEMORANDUM AND ORDER

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MEMORANDUM AND ORDER

This case arises from an agreement (“the Agreement”) by which SolmeteX, Inc. (“SolmeteX”) licensed certain technology for the removal of arsenic from water, to which it held rights under a patent, to defendant Bro-Tech Corporation, d/b/a The Purolite Company (“Purolite”). Plaintiff Layne Christensen Company (“Layne”) acquired SolmeteX and asserts SolmeteX’s rights under the patent and the Agreement. Layne terminated the Agreement. Layne now asserts claims against Purolite for patent infringement, and pursuant to a prior order of the Court, Arup SenGupta, the owner of the patent, was added as a required plaintiff. Layne also asserts claims against Purolite for breach of the Agreement. Purolite has asserted counterclaims against Layne for breach of contract, breach of the implied covenant of good faith and fair dealing, unfair competition, and restraint of trade.

This matter presently comes before the Court on various motions by the parties involving expert witnesses. As more fully set forth below, the Court rules on those motions as follows: Plaintiffs’ motion to exclude testimony by Richard Troxel (Doc. # 426) is **granted in part and denied in part**; the motion is granted with respect to opinions concerning Layne’s claim for royalties and Purolite’s claim for unpaid invoices, but is denied as moot with respect to damages on Purolite’s other counterclaims. Plaintiffs’ motion to exclude certain expert sur-rebuttal reports (Doc # 428) is **denied**. Purolite’s motion to exclude testimony by Dennis Clifford (Doc. # 430) is **denied**.

Plaintiffs' motion for leave to file a declaration by Dr. Clifford (Doc. # 542) is **granted**, and the proposed declaration is deemed filed.

This matter also comes before the Court on Layne's motion for summary judgment on certain of Purolite's counterclaims (Doc. # 404). That motion is **granted**, and Layne is awarded summary judgment on Purolite's counterclaims at issue in the motion, namely all claims for breach of contract other than Purolite's claim of a breach based on the failure to pay for product, and Purolite's claims for unfair competition, restraint of trade, and breach of the implied covenant of good faith and fair dealing.

The matter is also before the Court on Layne's motion for partial summary judgment on its claims for breach of contract (Doc. # 406). That motion is **granted in part and denied in part**. As it relates to Layne's claim for damages for unpaid royalties, the motion is granted with respect to Purolite's liability, but denied with respect to the amount of damages. As it relates to Layne's claim for a permanent injunction for breach of Section 11.2 of the Agreement, the motion is granted, and Purolite is hereby permanently enjoined from making, selling, or using the product FerrIX A33E or any substantially similar product that uses "Intellectual Property" (as defined in the Agreement) resulting from Purolite's activities under the Agreement.

The matter is also before the Court on plaintiffs' motion for summary judgment on its claims of patent infringement (Doc. # 408). That motion is **granted in part and denied in part**. The motion is granted with respect to the following, on which plaintiffs

are awarded summary judgment: Purolite’s theories that Claim 1 of the patent is not infringed based on the “by the action of the oxidant” and “salt of said metal” limitations; and Purolite’s invalidity defenses based on an inoperable process under 35 U.S.C. § 112 (Claim 1), the lack of a written description under 35 U.S.C. § 112 (Claim 1), and obviousness under 35 U.S.C. § 103 (Claim 15). The motion is denied in all other respects.

The matter is also before the Court on Purolite’s motion for summary judgment on certain of plaintiffs’ claims (Doc. # 410). That motion is **granted in part and denied in part**. The motion is granted with respect to the following, on which Purolite is awarded summary judgment: Layne’s claim for breach of Section 10.1 of the Agreement, to the extent that such breach is based on an underlying breach of a separate non-disclosure agreement between SolmeteX and Purolite; with respect to patent infringement, plaintiffs’ marking estoppel theory and any claims by plaintiff based on indirect infringement or the doctrine of equivalents; and with respect to patent invalidity, plaintiffs’ license estoppel theory and Purolite’s defense that Claim 15 of the patent is anticipated by prior art pursuant to 35 U.S.C. § 102—and thus also plaintiffs’ claim for infringement of Claim 15. The motion is denied in all other respects.

I. Motions Relating to Experts

A. Plaintiffs' Motion to Exclude Troxel Testimony (Doc. # 426)

Plaintiffs Layne and Dr. SenGupta move to exclude expert testimony by Purolite's damages expert, Richard Troxel. This motion is granted in part and denied in part.

First, the motion is granted with respect to Mr. Troxel's opinions concerning the amount of unpaid invoices for product sold to Layne on which Purolite seeks to recover. In his report, Mr. Troxel merely totaled up the balance due on three invoices to arrive at a total amount due. Purolite has not addressed this opinion in its response brief, and thus it has not disputed that at trial Mr. Troxel would be doing nothing more than simply adding three numbers. Because the Court agrees with plaintiffs that adding up the three invoices does not require expert testimony and because this argument is unopposed, the motion is granted as it relates to this opinion.

Second, by this opinion, the Court has granted Layne summary judgment on all other counterclaims asserted by Purolite. *See infra* Part III. Accordingly, the motion is denied as moot to the extent that it relates to Mr. Troxel's opinions concerning damages for those counterclaims.

Third, the motion is granted with respect to Mr. Troxel's opinions on plaintiffs' claims for damages for infringement of the patent. Plaintiffs object to this testimony on the basis that Mr. Troxel did not do any analysis himself, but merely relied on the opinion of a Purolite executive concerning an appropriate royalty percentage. Purolite

has not responded to this argument. Based on the evidence submitted by plaintiffs, it does appear to the Court that Mr. Troxel has not articulated an independent opinion on that issue. *See Ash Grove Cement Co. v. Employers Ins. of Wausau*, 246 F.R.D. 656, 661 (D. Kan. 2007) (Lungstrum, J.) (expert may not simply parrot or recite opinions and knowledge of other witnesses). For that reason and because the motion is unopposed with respect to these opinions, Mr. Troxel's opinions on this issue of plaintiffs' infringement damages will not be admitted.

B. Plaintiffs' Motion to Exclude Sur-Rebuttal Reports (Doc. # 428)

Plaintiffs move to exclude expert reports by Mr. Troxel and by Daniel Stack, another Purolite expert, that were provided after the expiration of the Court's expert disclosure deadlines. Purolite concedes that these two reports were submitted in rebuttal to plaintiffs' rebuttal expert reports. This motion is denied.

First, given the Court's rulings, *see supra* Part I.A, Mr. Troxel will not be offering expert testimony at trial. Accordingly, the motion is moot with respect to Mr. Troxel's additional report.

Second, the Court agrees that the sur-rebuttal report by Dr. Stack was not authorized by the Court's scheduling order. Nevertheless, as long as he does not offer any new opinions separate from those offered in his authorized report, Dr. Stack will of course be permitted at trial to comment on criticisms by plaintiffs' expert of Dr. Stack's

opinions. Moreover, Purolite could have submitted Dr. Stack's sur-rebuttal opinions in the form of a declaration to be considered at summary judgment. Thus, plaintiffs have suffered no prejudice from the fact that those sur-rebuttal opinions were formalized in a report, and in fact plaintiffs may be better able to prepare to cross-examine Dr. Stack at trial. In ruling on summary judgment, the Court will not consider any new opinion offered by Dr. Stack that is not fairly contained in his other report, and any such objection to a new opinion may be asserted at trial when appropriate. Accordingly, the Court denies the motion to exclude the sur-rebuttal report by Dr. Stack. Plaintiffs' request for sanctions is also denied.

C. *Purolite's Motion to Exclude Clifford Testimony (Doc. # 430)*

The Court also denies Purolite's motion to exclude testimony by plaintiff's expert, Dennis Clifford. First, with respect to his opinions concerning infringement, the Court concludes that Dr. Clifford's opinions are sufficiently based on his experience and that Purolite's objections concerning his analysis and the lack of testing go to the weight of the opinions and not to their admissibility. Second, the Court will not exclude Dr. Clifford's invalidity opinions on the basis that they are too short, as Dr. Clifford addressed the issues at greater length in his rebuttal report. Of course, Dr. Clifford may not offer an opinion on a legal issue at trial, but the Court will defer consideration of any such objection in order to rule on it in the context of his testimony at trial as a whole.

Third, the Court does not agree with Purolite that Dr. Clifford's opinions concerning contract issues constitute an improper attempt to construe terms in the Agreement.

D. Plaintiffs' Motion for Leave to File Declaration (Doc. # 542)

In opposing Purolite's summary judgment motion, plaintiffs have cited to Dr. Clifford's expert reports. Purolite has objected to those citations, on the basis that the reports were not sworn or supported by an affidavit or declaration, as required by the local rule. *See* D. Kan. 56.1(d).¹ To address that objection, plaintiffs now seek leave to file a declaration by Dr. Clifford supporting his prior reports. Purolite opposes the motion, arguing that the declaration is untimely and that an extension is unwarranted.²

Because it concludes that an extension of time is warranted for plaintiffs' reliance on such a declaration, the Court grants this motion. *See Bishop v. Corsentino*, 371 F.3d 1203, 1206 (10th Cir. 2004) (noting factors relevant to a determination of excusable neglect). Because Purolite addressed Dr. Clifford's evidence in its summary judgment briefs, Purolite will not suffer any unfair prejudice from the extension. Although Purolite ominously suggests that further discovery could result, it has not identified any additional discovery that it would seek leave to pursue. The delay in the submission of

¹Fed. R. Civ. P. 56, as recently amended, requires only that parties support their factual statements by citation to materials in the record.

²The Court rejects Purolite's further argument that the proposed declaration is not sufficient for purposes of compliance with the local rule.

the declaration will not affect judicial proceedings. Plaintiffs' failure to include a declaration with its summary judgment response is reasonable in light of the fact that Purolite cited to and attached Dr. Clifford's unsworn report (also in violation of the local rule) in the summary judgment brief to which plaintiffs were responding. Finally, Purolite's argument that plaintiffs lacked good faith appears nonsensical, as there could be no conceivable advantage gained by delaying compliance with the requirement of a declaration.

For these reasons, the Court finds that plaintiffs' failure to submit the declaration previously resulted from excusable neglect and that an extension of the deadline to submit the declaration is therefore warranted. Thus, the Court grants the present motion for leave, and the proposed declaration is deemed filed. The Court further overrules Purolite's objections to plaintiffs' citations to Dr. Clifford's reports in the summary judgment briefs.

II. Summary Judgment Standard

Summary judgment is appropriate if the moving party demonstrates that there is "no genuine dispute as to any material fact" and that it is "entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(a). In applying this standard, the court views the evidence and all reasonable inferences therefrom in the light most favorable to the nonmoving party. *Burke v. Utah Transit Auth. & Local 382*, 462 F.3d 1253, 1258 (10th

Cir. 2006). An issue of fact is “genuine” if “the evidence allows a reasonable jury to resolve the issue either way.” *Haynes v. Level 3 Communications, LLC*, 456 F.3d 1215, 1219 (10th Cir. 2006). A fact is “material” when “it is essential to the proper disposition of the claim.” *Id.*

The moving party bears the initial burden of demonstrating an absence of a genuine issue of material fact and entitlement to judgment as a matter of law. *Thom v. Bristol-Myers Squibb Co.*, 353 F.3d 848, 851 (10th Cir. 2003) (citing *Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23 (1986)). In attempting to meet that standard, a movant that does not bear the ultimate burden of persuasion at trial need not negate the other party’s claim; rather, the movant need simply point out to the court a lack of evidence for the other party on an essential element of that party’s claim. *Id.* (citing *Celotex*, 477 U.S. at 325). If the movant carries this initial burden, the nonmovant may not simply rest upon the pleadings but must “bring forward specific facts showing a genuine issue for trial as to those dispositive matters for which he or she carries the burden of proof.” *Garrison v. Gambro, Inc.*, 428 F.3d 933, 935 (10th Cir. 2005).

Finally, the Court notes that summary judgment is not a “disfavored procedural shortcut;” rather, it is an important procedure “designed to secure the just, speedy and inexpensive determination of every action.” *Celotex*, 477 U.S. at 327 (quoting Fed. R. Civ. P. 1).

III. Purolite's Counterclaims

Layne moves for summary judgment on various counterclaims asserted by Purolite (Doc. # 404).

A. Consequential Damages

Layne asserts that any claim by Purolite for consequential damages is barred by Section 9.4 of the Agreement, which precludes the recovery of such damages, including lost profits. Purolite does not dispute that the damage limitation applies in this case to preclude such damages generally; rather, Purolite only notes that the limitation contains an exception for breaches of Section 11 of the Agreement and that it has indeed brought a claim against Layne for breach of Section 11 (relating to alleged acts of competition by Layne). Layne agrees that the prohibition against consequential damages would not apply to Purolite's claim under Section 11. Accordingly, Layne is granted summary judgment on all claims by Purolite for consequential damages other than Purolite's claim for breach of Section 11 of the Agreement.

B. Breach of the Agreement – Specifications

Purolite claims that Layne's predecessor, SolmeteX, breached Section 1.2 of the Agreement by "providing a deficient and inoperable product specification." (See Pretrial Order ¶ 5.b.) Layne seeks summary judgment on that counterclaim based on both the statute of limitations and the merits of the claim.

1. STATUTE OF LIMITATIONS

The Court applies Kansas limitations law in this case. *See Miller v. Armstrong World Indus.*, 949 F.2d 1088, 1089 n.3 (10th Cir. 1991) (for state-law claim, court applies substantive law, including statutes of limitation, that forum courts would apply); *see also Klaxon Co. v. Stentor Elec. Mfg. Co.*, 313 U.S. 487, 496 (1941) (federal court sitting in diversity jurisdiction must apply forum state's choice of law rules to determine which state's substantive law applies). Kansas courts apply their own state's statutes of limitations. *See Green v. Kensinger*, 199 Kan. 220, 223 (1967). The Court also applies Kansas's borrowing statute, K.S.A. § 60-516, as necessary. *See Garcia v. International Elevator Co.*, 358 F.3d 777, 779 (10th Cir. 2004).

Layne asserts that SolmeteX provided the specifications to Purolite prior to November 2004, and that Purolite's claim therefore accrued at the latest on November 15, 2004, when SolmeteX and Purolite executed the Agreement, to which the specifications were attached. Purolite did not assert this counterclaim until January 2010 at the earliest. Therefore, Layne argues that Purolite's claim is barred by Kansas's five-year statute of limitations. *See* K.S.A. § 60-511(1) (five years for action on written agreement).³

³The Court rejects Purolite's argument that Layne waived this defense of the statute of limitations by raising it for the first time in the Pretrial Order. Whether or not the defense was raised before, it has been included without objection in the Pretrial Order, and thus the defense is properly in the case. Purolite has not moved to amend the Pretrial Order to strike that defense. Moreover, it appears that any such motion to amend
(continued...)

Purolite does not dispute that its claim accrued on November 15, 2004, or that it first asserted the claim more than five years later. Nevertheless, Purolite contends that, despite the running of the statute of limitations, it may assert the claim as a defense, to the extent of any recovery by Layne under the Agreement. Indeed, K.S.A. § 60-213, relating to counterclaims, provides as follows:

If a party's claim arises out of the contract or transaction that is the basis of an opposing party's claim . . . and it could have been asserted as a counterclaim or crossclaim against a person if the person had asserted a claim against the party previously, the party's claim is not extinguished by . . . the expiration of the statute of limitations. However, the party's claim may be asserted in these circumstances only to the extent that it does not exceed the amount awarded to the opposing party.

See id. § 60-213(d). Under this statute, a time-barred claim may nonetheless be used to obtain a setoff against the opposing party's recovery under the same contract if the two parties' claims were coexisting at any particular time. *See Mynatt v. Collis*, 274 Kan. 850, 866 (2002) (citing *Lightcap v. Mobil Oil Corp.*, 221 Kan. 448, 464 (1977)). Purolite argues that Layne's claim for royalties under the Agreement, which Purolite allegedly failed to pay beginning in "late 2008" (see Pretrial Order ¶ 5.a), did coexist for

³(...continued)

would not succeed, as Layne notes that Purolite did not plead this specific counterclaim regarding the specifications until the Pretrial Order was prepared.

The Court also rejects Layne's argument that this claim is barred by laches, waiver, or estoppel. Layne improperly raised this argument for the first time in its reply brief. *See, e.g., U.S. Fire Ins. Co. v. Bunge N. Am., Inc.*, 2008 WL 3077074, at *9 n.7 (D. Kan. Aug. 4, 2008) (court will not consider issues raised for first time in reply brief (citing *Minshall v. McGraw Hill Broadcasting Co.*, 323 F.3d 1273, 1288 (10th Cir. 2003))). Moreover, Layne failed to analyze the elements of any of those doctrines, and thus has failed to establish those affirmative defenses as a matter of law.

a period with its own claim, which did not become time-barred under the Kansas statute until November 2009.

Layne argues that the claims did not coexist. Layne argues that Purolite's claim arose in Pennsylvania, the home of Purolite's manufacturing facilities where Purolite would have received the specifications from SolmeteX. Thus, Layne argues that Kansas would borrow Pennsylvania's four-year statute of limitations for a claim for breach of a written agreement, 42 Pa. Cons. Stat. § 5525(a)(8). *See* K.S.A. § 60-516 (borrowing statute). Finally, Layne argues that because its own claim did not accrue until after November 15, 2008, the parties' claims did not coexist and Purolite therefore cannot assert its claim even in defense. Purolite does not dispute that its claim arose in Pennsylvania or that a four-year statute of limitations would govern Purolite's assertion of an affirmative claim. Nevertheless, Purolite argues, without analysis or citation to authority, that the borrowing statute would not apply because it is asserting its claim only defensively.

The Court agrees with Layne that the Pennsylvania four-year statute of limitations applies through the Kansas borrowing statute for purposes of determining whether the two claims coexisted here at any point in time. The Kansas Supreme Court has described the coexistence requirement as follows:

The statute, 60-213(d), *supra*, requires that before the cross-claim can be asserted the two demands, the plaintiff's demand and the defendant's demand, must have coexisted between persons under such circumstances that if one had brought an action against the other, a

counterclaim could have been set up. In all cases this prerequisite requires that at some point in time there must be a coexistence of the two claims together. If the cross-claim asserted is barred prior to the existence of the claim asserted in the damage action by [the plaintiff], then the statute does not allow the assertion of the cross-claim, since the two claims at no time coexisted in time.

J.A. Tobin Constr. Co. v. Holtzman, 207 Kan. 525, 534 (1971); *see also Lightcap*, 221 Kan. at 464 (considering when claims were “alive” under applicable statutes of limitations in determining whether claims coexisted for purposes of K.S.A. § 60-213(d)). Thus, for Purolite to assert its claim as a defense, the claim must have been alive, and not time-barred as an affirmative cause of action, at the time Layne’s own cause of action accrued. At any time after November 15, 2008, Layne could have relied on the borrowing statute and the Pennsylvania statute of limitations, and thus Purolite could not have maintained an affirmative claim after that date. Thus, the parties’ claims coexisted only if Layne’s own claim accrued before November 15, 2008.

The Pretrial Order is not helpful in resolving this issue of fact; that document notes Layne’s contention that Purolite stopped paying royalties under the Agreement in “late 2008,” and it contains a stipulation that “Purolite suspended payment of royalties to Layne at the end of 2008.” (Pretrial Order ¶¶ 4.a(7), 5.a.) Layne has provided a copy of a letter that it sent to Purolite on November 19, 2008, in which it demanded unpaid royalties. First, this evidence was submitted only with Layne’s reply brief, and the Court will not consider Layne’s argument, made for the first time in that brief, that its claim accrued on that specific date. Second, Layne has not explained how the letter establishes

that its claim did not accrue earlier. In fact, the letter stated that the demand was based on an audit performed in June 2008. Therefore, the Court concludes that an issue of fact remains concerning the accrual date of Layne's claim and whether the parties' claims coexisted for purposes of K.S.A. § 60-213(d).

Accordingly, the Court grants Layne's motion for summary judgment on the basis of the statute of limitations on Purolite's claim relating to the provision of specifications under Section 1.2 of the Agreement to the extent that that claim is asserted affirmatively. The Court denies the motion based on the statute of limitations to the extent that the claim is asserted defensively to the extent of any recovery by Layne on the Agreement.

2. MERITS OF THE CLAIM⁴

Layne also argues that it is entitled to summary judgment on this claim because Purolite has failed to provide evidence that SolmeteX in fact breached the contract. The relevant contract provision, Section 1.2 of the Agreement, follows:

Specifications. Purolite and SolmeteX will finalize and attach to this Agreement the Manufacturing Specifications (as defined below) for the

⁴Because the parties have agreed that Delaware law governs all claims for breach of the Agreement, pursuant to a choice-of-law provision therein, the Court has also applied Delaware law for purposes of resolving the parties' summary judgment motions. The parties have not addressed the scope of that choice-of-law provision, however, or whether the law of the place of performance could govern issues not relating to the interpretation of the Agreement. *See, e.g., Layne Christensen Co. v. Zurich Canada*, 30 Kan. App. 2d 128, 142 (2002) (noting difficulty is deciding whether to apply law of place of contracting or place of performance). Thus, the Court does not comment on which state's law will be applied at trial.

Media. The “Manufacturing Specifications” will include finished product specifications for the Media, and certain testing standards to determine compliance therewith. The Manufacturing Specifications will be attached to this Agreement as Appendices A [*sic*] hereto, respectively. The Manufacturing Specifications will be developed such that (a) Purolite need disclose no proprietary manufacturing information and (b) SolmeteX’s disclosure of proprietary information is minimized. After the initial Manufacturing Specifications are established, (i) SolmeteX will be promptly notified of all changes made thereto, and (ii) Purolite agrees to use best efforts to promptly implement any change thereto requested by SolmeteX.

Purolite has stated its claim for breach of this provision as follows:

Purolite contends that both parties to the Contract had the understanding that SolmeteX had produced a finalized, completed, and marketable “resin primarily used in arsenic removal from aqueous streams” and that the Manufacturing Specifications attached to the Contract as Appendix A provided a finished and finalized manner of manufacturing the ArsenXnp product. SolmeteX breached the Contract by providing a deficient and inoperable product specification that caused Purolite to experience a number of manufacturing problems and incur additional, unanticipated costs.

(Pretrial Order ¶ 5.b.)

In seeking summary judgment, Layne argues that SolmeteX did provide specifications before the Agreement was executed and that Purolite in fact manufactured and sold the product before the date of the Agreement. Layne disputes that the Agreement imposed any obligation to provide “operable” product specifications or specifications that would need no improvement, and it cites other portions of the Agreement that refer to anticipated improvements to the Media. Layne further argues that any obligation to provide a “marketable” product (although it disputes the existence

of such an obligation) was satisfied because Purolite did sell the product. Finally, Lanye notes that the Agreement imposed the obligation regarding the specification jointly on SolmeteX and Purolite, although it does not explain how that would relieve SolmeteX of any obligation under Section 1.2.

In response, Purolite argues that the requirement for the provision of “finished product specifications” (from the definition of “Manufacturing Specifications”) demanded SolmeteX’s provision of “finalized specifications for a finished product,” from which “Purolite could manufacture non-defective, commercially marketable Media.” In that regard, Purolite notes the introductory language to the Agreement stating that “SolmeteX has developed a resin primarily used in arsenic removal from aqueous streams . . . , comprised of SolmeteX’s chemistry applied to a Purolite base bead . . . (the ‘Media’).” Purolite cites to evidence that in late 2004 and early 2005, the product had problems (the product easily broke up, was fragile, had a bad odor, and left a precipitate); and that the product finally reached a “commercially ready point” in May 2005. Purolite argues that that evidence raises a question of fact concerning whether SolmeteX “initially provided finished product specifications that yielded a commercially viable product.”

The Court rejects Purolite’s arguments. First, contrary to Purolite’s interpretation, Section 1.2 does not require the provision of specifications that yield a perfect product, a marketable product, or a product free of any problems. The only obligation is to

provide “finished product specifications.” Thus, applying the ordinary meaning of the word “finished”, SolmeteX was required only to provide specifications in their completed form, and not from some initial or earlier stage. As noted by Layne, the contract clearly contemplated that improvements would be made to the initial specifications—indeed, Section 1.2 itself speaks to future changes by Purolite to the “initial Manufacturing Specifications.” Although Purolite points to the introductory language, it has not provided any evidence that SolmeteX in fact had *not* developed an arsenic removal resin comprising its chemistry and Purolite’s bead. Purolite’s evidence that there were issues demanding improvement to the product and that the product was not “commercially ready” does not constitute evidence that SolmeteX did not provide its “finished product specifications.” Purolite does not controvert the fact that it did sell the product, based on SolmeteX’s specifications, even before the execution of the Agreement. Thus, Purolite has not submitted evidence that SolmeteX breached Section 1.2 of the Agreement. Accordingly, the Court awards summary judgment in favor of Layne on this claim for breach of contract (whether asserted affirmatively or merely as a defense).

C. *Breach of the Agreement – Pursuit of Suspected Infringer*

Purolite also claims that Layne breached Section 4.6.1 of the Agreement by failing to “pursue” parties suspected of infringing the patent. Layne argues that Purolite

cannot produce evidence that it has suffered any damage from any such breach. In support of that argument, Layne notes that Purolite’s damage expert could not identify any specific sales that Purolite lost because Layne did not pursue infringers, and he did not offer any opinion as to whether any such failure by Layne caused damage to Purolite. In response, Purolite concedes that it cannot establish the amount of its damages for this breach with the necessary certainty, but it argues that because it did suffer some damage from this breach, it may seek nominal damages. Purolite cites evidence that one suspected infringer, Resin Tech, did make some sales of an infringing product, and it argues that it was damaged because “those sales necessarily could have been made by Purolite.”

The Court rejects this claim by Purolite for nominal damages for several reasons. First, Purolite has not explained why the Court should permit it essentially to seek a declaration of breach, in the guise of a claim for nominal damages, without pursuing any meaningful relief.⁵ Second, any such damage in the form of lost sales would constitute

⁵In support of its claim for nominal damages, Purolite cites an unpublished opinion, *Ivize of Milwaukee, LLC v. Compex Litigation Support, LLC*, 2009 WL 1111179 (Del. Ch. Apr. 27, 2009) (unpub. op.). In *Ivize*, the court stated that “the breach of a contractual obligation often warrants an award of nominal damages.” *See id.* at 12 (citing *Palmer v. Moffat*, 2004 WL 397051, at *4 (Del. Super. Feb. 27, 2004) (unpub. op.)). In *Palmer*, however, an unpublished district court opinion on which the *Ivize* court relied, the court noted that “[e]ven where nominal damages are possible, a trial is not always warranted,” and it refused to allow such a claim in that case because no loss was shown by the plaintiff and a trial on liability would have been a futile exercise. *See Palmer*, 2004 WL 397051, at *4-5 (citing 22 Am. Jur. 2d, *Damages* § 9, p.39). Similarly here, no purpose would be served by allowing this claim for nominal damages to proceed
(continued...)

consequential damages (which includes lost profits), the recovery of which the Agreement precludes—nominal or otherwise—as set forth above. Third, Purolite’s statement in its brief that it could have made the sales that Resin Tech made is not sufficient to withstand summary judgment on this point. The only actual evidence cited by Purolite in support of that bit of speculation is the statement in the declaration of a Purolite executive that “[t]o the extent that Resin Tech sold its ASM-10-HP product in or around September of 2008, those requirements for an arsenic removal product could have been satisfied by the ArseneX product made by Purolite at that time.” Purolite has not provided any evidence concerning when any sales by Resin Tech occurred, however; nor is there evidence that the declarant had any personal knowledge about the volume or other details of any sales by Resin Tech, or whether Resin Tech actually made any sales in September 2008. Thus, Purolite has not provided evidence that it could and would have made specific sales that Resin Tech made, and thus it has not shown that it did suffer actual damage from the alleged breach. Accordingly, Layne is awarded summary judgment on this claim by Purolite for breach of contract.⁶

⁵(...continued)

to trial (there is no claim for injunctive relief, for example), and Purolite has not cited any authority that would require the trial of such a claim for nominal damages for breach of contract. Moreover, the fact that Purolite cannot assert an affirmative claim for this breach does not preclude Purolite’s assertion of the breach as an affirmative defense to Layne’s own claim for breach of the Agreement.

⁶Because of this ruling, the Court need not address the merits of this claim, including the meaning of “pursue” and whether Layne did pursue Resin Tech as a matter
(continued...)

D. Breach of the Agreement – Competitive Acts

Purolite also claims a breach of Section 11.1 of the Agreement, which provides as follows:

11. Non-Competition

11.1 *Restrictions on SolmeteX.* Except as otherwise set forth in this Agreement, SolmeteX agrees not to use any third party distributor as defined in section 3.2 for the Media in the Licensed Channels other than Purolite during the Term. Except as otherwise set forth in this Agreement, Solmetex agrees not to use any other supplier for Media and not to license any third party to manufacture Media for commercial sale during the Term. Notwithstanding anything herein to the contrary, there will be no limitation on SolmeteX’s non-sales activities, including research and development related to Media.

Purolite claims that Layne breached this provision by engaging in the following “acts of competition” against Purolite:

(1) activities with Thermax, including a purchase order to Thermax Inc. for 2,000 cubic feet of ArseXnp in July of 2005 and the subsequent production of ArseXnp by Thermax; (2) work with Mobile Process Technology (“MPT”) on the development, promotion, and sale of “npRio”, a competing arsenic removal product; (3) other activities with MPT, consisting of the formation and promotion of certain partnerships and joint ventures, MPT’s manufacture of ArsenX on behalf of SolmeteX, and the project known as “Compliant Water”; and (4) the development, promotion, and sale of Layne’s own competing products called Layne33 and Layne RT.

(Pretrial Order ¶ 5.b.)

⁶(...continued)
of law.

1. DAMAGES

In seeking summary judgment on this claim, Layne argues that Purolite has not produced any evidence of damage attributable to this alleged breach.⁷ Layne notes that Purolite's damage expert could not attribute specific amounts of damages to the alleged anti-competitive acts involving Thermax or MPT or Layne RT.

With respect to the amount of its damages, Purolite points to its expert's opinion by which he calculated a specific amount of damages suffered by Purolite for all of the competitive acts alleged (based on Purolite's lost sales to SolmeteX directly and to one other customer). Thus, Purolite has submitted evidence of the amount of its damages for this alleged breach. The Court does not agree with Layne that the expert's inability to allocate his damage amount for this breach among the alleged anti-competitive acts precludes this claim at this stage.

The Court does agree with Layne, however, that Purolite has failed to provide any evidence of the fact of any damage suffered as a result of this alleged breach. On this issue of damages, Purolite's entire argument is as follows:

Finally, [Layne] argues that there is no evidence of any damage to Purolite for any of these acts of competition. Not true. Those acts of competition directly led to the breakdown of the Agreement. SOF at ¶ 71. Indeed, without those acts of competition, the parties would still be working together to produce ArsenX today. SOF at ¶ 71. And the damage amounts to Purolite have been extensively explained by Purolite's

⁷As noted above, the consequential damage limitation in the Agreement did not apply to breaches of Section 11 of the Agreement.

damages expert Mr. Troxel. SOF ¶ 92. What's more, Purolite has suffered intangible, yet real, damage as result [*sic*] of these acts of competition including the loss of business and diminished reputation. SOF ¶ 71.

First, the citation to the expert report of Mr. Troxel (Purolite's damage expert) in Paragraph 92 of Purolite's Statement of Facts, as noted above, provides evidence of the amount of damage, but it does not provide any evidence of the fact of damage to Purolite. In his report, Mr. Troxel stated that in making his calculations, he assumed proof of the alleged breach,⁸ and he calculated his lost sales figure for this claim based on Purolite's "belief" that it lost sales because of Layne's actions in the marketplace. Mr. Troxel did not provide any expert opinion that Purolite lost sales because of the alleged acts (and it is hard to imagine that he could do so as an expert); rather, he opined that if Purolite in fact lost sales, those sales totaled to a certain figure.

Purolite's only other citation to the record in support of its argument that it suffered damages (the breakdown of the Agreement and the relationship, "intangible" damages) is to Paragraph 71 of its statement of facts. That paragraph, however, relates only to Purolite's ability to make sales made by Resin Tech (addressed above). Neither that paragraph nor any other paragraph in Purolite's Statement of Facts in its response

⁸Under Delaware law, which the parties agree applies here, resulting damage from the breach is an element of a claim for breach of contract. *See H-M Wexford LLC v. Encorp, Inc.*, 832 A.2d 129, 140 (Del. Ch. 2003); *see also Paul v. Deloitte & Touche, LLP*, 974 A.2d 140 (Del. 2009) (affirming summary judgment based on failure to show damage from alleged breach of contract).

to this motion cites to evidence that Purolite suffered actual harm from the alleged anti-competitive acts by Layne. Accordingly, Purolite has not provided evidence, as required in opposing summary judgment, that it suffered damages as a result of the alleged breach, and summary judgment is therefore appropriate on this claim.

2. MERITS OF THE CLAIM

Layne is also entitled to summary judgment for another reason. In arguing that it did not breach Section 11.1 of the Agreement, Layne notes that all of the restrictions in that section relate to activities involving “Media”. That term is defined in the introduction the Agreement:

Whereas, SolmeteX has developed a resin primarily used in arsenic removal from aqueous streams, which is referred to as “AsX^{np}” or “ArsenX^{np}”, comprised of SolmeteX’s chemistry applied to a Purolite base bead (in this case, Purolite’s A-500P base bead or improved alternate) (the “Media”);

Layne has provided evidence that the alleged competitive acts involved products that did not use a Purolite bead, but instead used beads manufactured by others. Thus, Layne argues that any such acts did not involve “Media”, which must by definition include a Purolite bead, and that it therefore cannot be said to have breached Section 11.1.

Purolite does not dispute that the alleged acts of breach did not involve any product or resin using a Purolite bead. Rather, Purolite argues that the Court should not interpret “Media” to require the use of a Purolite bead, despite the plain language of the Agreement’s definition. Purolite instead asks the Court to interpret “Media” to be a resin

product with SolmeteX's chemistry on *any* substrate, which interpretation Purolite asserts would be in keeping with the parties' intent. Purolite argues that following the plain language of the definition would be absurd and unreasonable, although it does not explain that absurdity. In support of its interpretation, Purolite argues that the title of the Agreement ("Exclusive . . . Agreement") and other terms in the Agreement show that the intent was for Purolite to be the exclusive manufacturer for the product (Purolite appointed as "exclusive manufacturer and supplier of the Media") and to prevent SolmeteX from competing with Purolite (Solmetex may not direct sell the Media to third party distributors, Purolite is lead distributor of the Media, Solmetex will use its best efforts to avoid competing directly at the same customers, and Purolite and SolmeteX will work together to penetrate the market).⁹

The Court rejects Purolite's alternative definition. The Agreement's definition of "Media" to include a Purolite base bead is unambiguous. The Agreement as a whole does not show that definition to be unreasonable or absurd, as the parties quite reasonably could have intended to restrict competing acts only to the extent that they involve the unique combination of SolmeteX's chemistry and Purolite's base bead, with

⁹Purolite also cites testimony by a SolmeteX executive that because of the definition of "Media", SolmeteX was in a better situation than he initially anticipated, and because of that "loophole", SolmeteX could have another company make the product with a non-Purolite bead. Of course, if a contract is unambiguous, such parol evidence is not admissible to alter or add a term to the contract or even to create an ambiguity, *see Capital Mgmt. Co. v. Brown*, 813 A.2d 1094, 1097 (Del. 2002), and the Court concludes that there is no ambiguity here.

which the product was originally constructed. The other terms from the Agreement cited by Purolite also relate to the Media and do not contradict the definition's plain language or Section 11.1; nor do they suggest that the parties intended to restrict SolmeteX's activities involving the use of a different bead. The Court therefore interprets Section 11.1, in conjunction with the Agreement's unambiguous definition of "Media", as prohibiting only certain activities by SolmeteX involving the use of product or resin that includes a Purolite base bead.

Purolite does not dispute that the alleged acts by Layne did not involve a product using a Purolite base bead, or provide evidence to the contrary. Accordingly, Purolite has not provided evidence that Layne breached Section 11.1 by those acts, and summary judgment is warranted on this claim for that reason as well.¹⁰

E. Breach of Implied Covenant of Good Faith and Fair Dealing

Purolite also asserts a counterclaim for breach of the Agreement's implied covenant of good faith and fair dealing, based on the same anti-competitive acts by Layne that Purolite alleged with respect to the counterclaim under Section 11.1.

¹⁰Because of this ruling, the Court does not address the parties' arguments concerning the interpretation of "sales activities" and whether the alleged acts fell within the scope of that term.

1. DAMAGES

Layne again argues that Purolite has failed to provide evidence of damage, for the same reasons set forth above with respect to the claim under Section 11.1. In response, Purolite only incorporates its prior arguments concerning the claim under Section 11.1. As explained above, Purolite did not provide evidence of the fact of its damage from the alleged anti-competitive acts. Accordingly, summary judgment is also appropriate on Purolite's claim for breach of the implied covenant.¹¹

2. MERITS OF THE CLAIM

The Court concludes that summary judgment on this claim is warranted for another reason as well. Delaware courts have expounded on this cause of action as follows:

All contracts are subject to an implied covenant of good faith and fair dealing. This doctrine, however, does not provide a Delaware court with the authority to rewrite or supply omitted provisions to a written contract. Rather, a court should be cautious when implying a contractual obligation and do so only where obligations which can be understood from the text of the written agreement have nevertheless been omitted from the agreement in the literal sense. In this instance, a court's inquiry should focus on what the parties likely would have done if they had considered the issue involved. The express terms of a contract and not an implied covenant of good faith and fair dealing, however, will govern the parties' relations when the terms expressly address the dispute.

¹¹In addition, a claim for breach of the implied covenant does not fall within any of the exceptions in Section 9.4 of the Agreement; therefore, this claim, by which Purolite seeks damages for lost sales, would also be barred by that section's prohibition against the recovery of lost profits and other consequential damages.

Fitzgerald v. Cantor, 1998 WL 842316, at *1 (Del. Ch. Nov. 10, 1998) (unpub. op.)

(footnotes and internal quotations omitted).

Under Delaware law, the implied covenant of good faith and fair dealing is employed as a means of honoring the parties' reasonable expectations in forming a contract. Courts must interpret the reasonable expectations of the parties within the context of existing contract terms, however. Accordingly, the implied covenant cannot be asserted to circumvent the express terms of the parties' bargain or to create new duties unattached to the underlying contract, and courts should not imply alleged obligation where the contract addresses the subject of the alleged wrong but fails to include the obligation alleged. Thus, the Delaware Supreme Court has consistently held that obligations under the covenant of good faith and fair dealing should be implied only in rare instances.

Homan v. Turoczy, 2005 WL 2000756, at *18 (Del. Ch. Aug. 12, 2005) (unpub. op.)

(footnotes omitted).

With respect to this claim, Purolite asks the Court to recognize an implied term prohibiting Layne from engaging in the alleged anti-competitive acts, even if those acts do not involve products using the Purolite base bead and thus do not involve the "Media". The Agreement, however, contains specific terms concerning prohibited anti-competitive acts by SolmeteX. Thus, SolmeteX's (and Layne's) restrictions are expressly stated, and under Delaware law, this Court may not inject other obligations relating to non-competition by SolmeteX into the contract under the guise of the implied covenant of good faith and fair dealing. Accordingly, Purolite's claim under this doctrine fails, and Layne is awarded summary judgment for this reason as well.

F. Unfair Competition

In the Pretrial Order, Purolite asserts a claim for “common law unfair competition.” Layne seeks summary judgment on that claim on the basis that such a claim is not recognized under Kansas law. Purolite agrees that Kansas law applies and that Kansas does not recognize this claim. Purolite therefore states that it withdraws this claim. Based on Purolite’s admission that the claim as asserted in the Pretrial Order cannot stand, however, the Court deems it appropriate to enter summary judgment in Layne’s favor on this claim.

G. Restraint of Trade

Finally, Purolite seeks an injunction prohibiting Layne’s enforcement of one provision of Section 11.2 of the Agreement. The provision in question reads as follows:

11. Non-Competition

...

11.2. *Restrictions on Purolite.* . . . During the Term and hereafter, Purolite agrees not to directly or indirectly use any Intellectual Property resulting from its activities under this Agreement to directly or indirectly manufacture, sell, supply or use any products or media substantially similar to, or competitive with, the Media (excluding any existing product already manufactured by Purolite as of the date of this Agreement) or other products of SolmeteX. . . .

Purolite claims that this provision should be deemed void as an unreasonable restraint of trade in violation of one of Kansas’s antitrust statutes, K.S.A. § 50-112. The statute

reads as follows:

All arrangements, contracts, agreements, trusts, or combinations between persons made with a view or which tend to prevent full and free competition in the importation, transportation or sale of articles imported into this state, or in the product, manufacture or sale of articles of domestic growth or product of domestic raw material, or for the loan or use of money, or to fix attorney or doctor fees, and all arrangements, contracts, agreements, trusts or combinations between persons, designed or which tend to advance, reduce or control the price or the cost to the producer or to the consumer of any such products or articles, or to control the cost or rate of insurance, or which tend to advance or control the rate of interest for the loan or use of moneys to the borrower, or any other services, are hereby declared to be against public policy, unlawful and void.

Id. (emphasis added). Purolite argues that this provision in Section 11.2 of the Agreement unreasonably restricts its ability to compete with Layne because the restriction lacks any temporal or geographical limitation; the restriction goes beyond what is necessary to protect Layne's interest in its intellectual property, in light of protection under the patent laws and other terms in the Agreement; Purolite is restricted from using intellectual property jointly owned with Layne; a limited number of competitors operate in this market; and the product, which removes arsenic from water, benefits public health.

Layne seeks summary judgment on this claim, arguing as a matter of law that Purolite has not shown that this contractual provision is an unreasonable restraint of trade in violation of the Kansas antitrust statute. The Court concludes that the relevant caselaw indicates that the Kansas Supreme Court would not deem this provision void as

a violation of K.S.A. § 50-112. Accordingly, the Court agrees with Layne that summary judgment is appropriate here.

In 1999, the Kansas Supreme Court noted that, although Section 50-112 is broad on its face, “there has been no meaningful interpretation” of the statute since its enactment more than one hundred years ago, as only a few cases involving the statute had come before the supreme court, and none since 1959. *See Bergstrom v. Noah*, 266 Kan. 829, 843-44 (1999). That 1959 case, however, is at least somewhat instructive. In *Okerberg v. Crable*, 185 Kan. 211 (1959), the court placed the burden of proof on the party challenging the contract and applied a presumption of validity, in accordance with its earlier cases, as follows:

There is no presumption that a contract is illegal. He who denies his liability under a contract which he admits having made, must make the fact of its illegality apparent. The burden of showing it wrong is on him who seeks to deny his obligation thereon. The presumption is in favor of innocence, and the taint of wrong is a matter of defense.

Id. at 217 (quoting *Morrison v. Bandt*, 145 Kan. 942, 945 (1937), which quoted an earlier case). The court also confirmed that the governing test under the statute is one of reasonableness:

The old rule as to limitations of time and space with respect to contracts involving restraint of trade has given way to the modern doctrine of reasonableness and the real test is never whether there is any restraint but always whether the restraint is reasonable under the facts and circumstances of the particular case.

Id. (quoting *Heckard v. Park*, 164 Kan. 216, syl. ¶ 7 (1948)). The question of

reasonableness depends “upon the fundamental elements of common fairness in view of the facts and circumstances of the parties.” *Id.* (quoting *Heckard*, 164 Kan. at 224).

Applying these standards in *Okerberg*, the supreme court held that a restriction among milk haulers concerning routes was reasonable. *See id.* at 217-18. In so concluding, the court reviewed and distinguished several cases that involved either price-fixing or a monopolized market. *See id.* at 215-17.

At the time *Okerberg* was decided, the supreme court had last addressed Section 50-112 in *Barton v. Hackney*, 167 Kan. 754 (1949), which involved a contract for the sale of a restaurant that also prohibited the seller from competing in that city for a period of time. *See id.* In holding that that restraint was reasonable and did not violate Section 50-112, the court noted that the statute “was not passed with the intention of prohibiting such a contract as this made in connection with the sale of a business.” *See id.* at 760-61.¹² The court also relied on its previous opinion in *Mills v. Ressler*, 87 Kan. 549 (1912), in which the court had stated that the decisive test under this statute for contracts that do not restrain competition generally is the resulting injury to the public. *See Barton*, 167 Kan. at 760 (quoting *Mills*, 87 Kan. at 554). The *Barton* court further noted that in *Mills*, for purposes of that inquiry, it had distinguished contracts “that stifled competition between public service and like corporations.” *See id.* at 760 (citing *Mills*,

¹²At one point in the opinion, the *Barton* court mistakenly referred to Section 50-118, but it referred at other places to the defendant’s argument under Section 50-112, and it quoted and considered the latter statute. *See Barton*, 167 Kan. 754.

87 Kan. at 554). In *Mills*, the court upheld as valid under Section 50-112 a contract by which a physician sold his practice and agreed not to practice or to disclose or sell certain formulas. *See Mills*, 87 Kan. at 555. In so finding in *Mills*, the supreme court applied a standard of reasonableness, as follows:

[T]he validity of a contract in partial restraint of trade or business is not to be determined by the arbitrary measures of extent in time, extent in space, and the like, but by its reasonableness under all the circumstances, having regard both for the liberty of a person to make beneficial use of his own, and for the public consequences of such use.

Id. at 554. The court proceeded to make the distinction later affirmed in *Barton*:

Therefore the subject of the contract belongs to a different class from those which involve competition between public service corporations like gas and electric light companies, or which involve natural competition in ordinary branches of trade.

Id.

The Kansas Supreme Court also upheld a contract against this statute in *Heckard v. Park*, 164 Kan. 216 (1948), in which the contract allegedly restrained competition by prohibiting the defendant from taking singing lessons from any instructor other than the plaintiff. *See id.* The court applied the same standards from *Mills* that it later applied in *Barton* and *Okeberg*:

The real question is never whether there is any restraint of trade, but always whether the restraint is reasonable in view of all the facts and circumstances and whether it is inimical to the public welfare. If it is reasonable and does not contravene public welfare the contract will be upheld. . . .

The old rule as to limitations of time and space has given way to

that of reasonableness. The question of reasonableness of a contract of this character frequently depends upon fundamental elements of common fairness in view of the facts and circumstances of the parties.

Id. at 223-24 (citations omitted). In finding the contract before it to be reasonable, the court distinguished one case involving the furnishing of electricity for the public and another involving price-fixing. *See id.* at 224.

The Court also notes the supreme court's opinion in *Gard v. Holmes' Estate*, 132 Kan. 443 (1931), in which the supreme court invalidated under the Kansas antitrust statutes a secret agreement to hire away an undertaker in a particular city to control price and cost in that market. *See id.* The court noted in *Gard*, however, that if the plaintiffs had simply bought out the undertaker's business with an agreement for him not to compete there, the court would have had "little hesitation in upholding the contract." *See id.* at 446. Years later, in *Okerberg*, the supreme court relied on this distinction and reaffirmed that "relaxing" of the strict rule of earlier cases. *See Okerberg*, 185 Kan. at 216 (citing *Gard*, 132 Kan. at 446).

Finally, even though the case does not specifically refer to Section 50-112 in discussing the Kansas antitrust statutes generally, the Kansas Supreme Court's opinion in *Sage v. Oil Country Specialties Mfg. Co.*, 134 Kan. 215 (1931), supports the Court's decision here. Like the present case, *Sage* involved an agreement for the license of patented technology that had allegedly been breached by the sale of a competing product by the licensee. *See id.* The court held that the contract was not void under Kansas's

anti-monopoly acts, K.S.A. § 50-101 *et seq.* *See id.* at 220. The court noted that “[t]he main purpose of the anti-trust acts is to prevent a person or an association from gaining control of the market, shutting off competition, and fixing prices at will to the prejudice of the public,” and that “[t]he protection of the public is the vital thing in the statute.” *See id.* The court stressed that the defendant could still sell other products, as long as they didn’t compete with plaintiff’s product; that there was no monopoly to harm the public; and that competition generally was not restrained, as others could still sell competing products. *See id.* at 219-20.

Based on these cases from the Kansas Supreme Court, the Court concludes as a matter of law that Purolite has not met its burden to show that the provision in Section 11.2 of the Agreement is unreasonable in violation of K.S.A. § 50-112. Under Kansas law, the Agreement is presumed to be valid. As a part of the Agreement, Layne granted a license and disclosed its intellectual property to Purolite, and it was reasonable for the parties to agree to restrict Purolite’s use of that intellectual property and any other intellectual property that resulted from activities under the Agreement to compete with Layne’s own products. Purolite was not prohibited from competing with Layne altogether—it only had to forego competition using the intellectual property gained as a result of a contract that included benefits for Purolite and that Purolite willingly entered into. Nor did the Agreement stifle competition in the market generally, as Purolite has not shown that a monopoly existed here. Nor did the Agreement involve a public service

corporation or the like. The fact that the restriction did not include temporal or geographic limitations is not especially pertinent, as the Kansas Supreme Court has made clear. This case does not involve a monopoly or price-fixing, as in the cases consistently distinguished by the supreme court. Moreover, if the right to compete could not be contracted away in this manner, companies would be discouraged from licensing their technology to other companies. Finally, Purolite has not cited any Kansas authority suggesting that Section 11.2 should be invalidated as a violation of K.S.A. § 50-112.

The Court is convinced that the Kansas Supreme Court would reject this challenge under Section 50-112 and uphold Section 11.2 of the Agreement. Accordingly, the Court also rejects this challenge, and it awards summary judgment in favor of Layne on Purolite's counterclaim for restraint of trade.¹³

IV. Layne's Claims for Breach of Contract

Layne asserts various claims against Purolite for breach of the Agreement, which are the subject of summary judgment motions by the parties. Layne seeks summary judgment on its claim for breach of Purolite's obligation to pay royalties for sales of the product, and on its claim for a permanent injunction prohibiting the further breach of Section 11.2 of the Agreement (Doc. # 406). Purolite seeks summary judgment on any

¹³After these rulings by the Court, the only remaining counterclaim is Purolite's claim for breach of contract, in the amount of \$53,802.11, based on SolmeteX's alleged failure to pay for product sold to it by Purolite in 2009. (See Pretrial Order ¶ 5.b.)

claims by Layne under Sections 10.1 and 11.2 of the Agreement (Doc. # 410).

A. Purolite's Defense of a Prior Material Breach

Purolite seeks to avoid summary judgment based on the defense that its own performance under the Agreement was excused by a prior material breach of the Agreement by SolmeteX or Layne. *See, e.g., Eastern Elec. and Heating, Inc. v. Pike Creek Prof. Ctr., Inc.*, 1986 WL 9031, at *3 (Del. Aug. 5, 1986) (unpub. op.) (noting the general rule that “the party first guilty of a material breach of contract cannot complain if the other party subsequently refuses to perform”); *DeMarie v. Neff*, 2005 WL 89403, at *4 (Del. Ch. Jan. 12, 2005) (unpub. op.) (material breach may excuse other party’s performance). The Court addresses in turn each prior breach alleged by Purolite.

1. PROVISION OF SPECIFICATIONS

Purolite contends that SolmeteX breached Section 1.2 of the Agreement by failing to provide sufficient specifications for the product, and in support, Purolite refers to the arguments that it made in opposition to summary judgment on its affirmative counterclaims. The Court has already concluded, however, that Purolite has not presented evidence to establish a breach of this provision. *See supra* Part III.B.2. Accordingly, Purolite may not rely on this alleged prior material breach in opposition to summary judgment on Layne’s contract claims.¹⁴

¹⁴In light of the parties’ briefs relating to Purolite’s counterclaims, the Court
(continued...)

2. COMPETITIVE ACTS

Purolite, again relying on its arguments in support of its affirmative counterclaim, also argues that Layne breached Section 11.1 of the Agreement and the implied covenant of good faith and fair dealing by engaging in certain competitive acts. Because the Court has already rejected this claim on its merits, *see supra* Parts III.D.2, III.E.2, Purolite may not rely on this alleged prior material breach.

3. PURSUIT OF SUSPECTED INFRINGER

Third, Purolite argues that Layne breached Section 4.6.1 of the Agreement by failing to pursue a party suspected of infringing the patent. The Court concludes, however, that this alleged breach by Layne was not in fact a material breach.

Delaware courts have recognized that a prior breach must be material to excuse later performance:

Not all breaches will authorize the other party to abandon or refuse further performance. To justify termination, it is necessary that the failure of performance on the part of the other go to the substance of the contract. “Modern courts, and the Restatement (Second) of Contracts, recognize that something more than mere default is ordinarily necessary to excuse the other party’s performance in the typical situation, subscribing to the general rule that where the performance of one party is due before that of the other party, such as when the former party’s performance requires a period of time, an uncured failure of performance by the former can suspend or discharge the latter’s duty of performance only if the failure is *material or substantial*.” Thus, although a material breach excuses performance of a contract, a nonmaterial—or *de minimis*—breach will not

¹⁴(...continued)
rejects Purolite’s argument that Layne improperly failed to negate this defense in its initial brief on this motion.

allow the non-breaching party to avoid its obligations under the contract.

DeMarie, 2005 WL 89403, at *4 (emphasis in original) (quoting 14 *Williston on Contracts* § 43:5 (4th ed. 2004)) (footnotes omitted). In *Hexion Specialty Chemicals, Inc. v. Huntsman Corp.*, 965 A.2d 715 (Del. Ch. 2008), the court further quoted from the *Williston* treatise's explanation of materiality as follows:

Thus if the prior breach of such a contract was slight or minor, as opposed to material or substantial, the nonbreaching party is not relieved of his or her duty of performance, although he or she may recover damages for the breach. . . . Generally, such nonperformance will attain this level of materiality only when it goes to the root, heart or essence of the contract or is of such a nature as to defeat the object of the parties in making the contract, or, as it has sometimes been said, when the covenant not performed is of such importance that the contract would not have been made without it.

Id. at 752 n.99 (quoting 14 *Williston on Contracts* § 43:5-6).

The Court concludes that even if Layne did commit a breach by failing to pursue a single suspected infringer, Resin Tech (an issue that the Court does not decide), such a breach would not have been a material breach. First, Purolite has not offered any argument why this breach meets this standard of materiality. Second, the Agreement reveals that its essential purpose was to grant Purolite a license to use SolmeteX's intellectual property to manufacture and distribute a product, and the alleged failure by Layne to pursue Resin Tech was not so substantial as to defeat that object. In opposing summary judgment on its counterclaim based on this alleged breach, Purolite could not provide evidence that it suffered any resulting damage. Nor did Purolite dispute Layne's

evidence that the degree of suspected infringement and the quality of the infringing product did not justify an infringement lawsuit against Resin Tech. Nor did Purolite dispute Layne's contention that Purolite also elected not to pursue Resin Tech, although the Agreement gave it that right. These facts confirm that the alleged breach was minor and thus nonmaterial. Accordingly, Purolite may not rely on this alleged prior material breach in opposition to summary judgment on Layne's contract claims.¹⁵

4. FAILURE TO PAY FOR PRODUCT

Finally, Purolite relies on its claim that Layne breached the Agreement by failing to pay Purolite for product in January and February 2009. First, any such breach by Layne occurred after—and therefore cannot have excused—Purolite's failure to pay royalties beginning in late 2008, and thus Purolite may not rely on this alleged breach by Layne as a defense to Layne's claim for royalties. Second, with respect to Layne's claim based on Purolite's breach of Section 11.2, Purolite has not offered any argument as to why this alleged prior breach should be deemed material. The Court concludes that this alleged failure by Layne to pay for some product does not defeat the object of the Agreement and thus is not material, particularly because any such breach may be easily redressed by an award of damages. *See* 14 *Williston on Contracts* § 43:6 (Restatement's factors for materiality include the extent to which the party may otherwise be adequately

¹⁵The Court again declines to address the merits of this assertion of breach. *See supra* note 4.

compensated) (citing Restatement (Second) of Contracts § 241); *see also, e.g., BioLife Solutions, Inc. v. Endocare, Inc.*, 838 A.2d 268, 278 (Del. Ch. 2003) (applying factors for materiality from Restatement § 241). Accordingly, Purolite may not rely on any alleged prior material breach in opposition to Layne’s contract claims.¹⁶

B. Claim for Unpaid Royalties

Layne seeks summary judgment on its claim against Purolite for \$145,433.88 in unpaid royalties under the Agreement for sales of Purolite’s product, ArseneXnp. Purolite has stipulated that it ceased paying such royalties to Layne at the end of 2008, even though it did not cease sales of that product until April 2009. In opposition to summary judgment on this claim, Purolite has only asserted the defense of a prior material breach by Layne, but the Court has now ruled that Purolite may not rely on that defense. Accordingly, Layne is entitled to summary judgment on this claim, at least with respect to the issue of Purolite’s liability.

With respect to damages, the only evidence submitted by Layne to support the amount of royalties owed is a letter of June 5, 2009, from Purolite to Layne. In the letter, Purolite calculated a total of \$145,433.88 in royalties due on sales of ArseneXnp. Purolite has objected to Layne’s use of this document, on the basis that the letter is

¹⁶In light of these rulings, the Court need not address Layne’s argument that Purolite elected not to repudiate the Agreement after the alleged prior breaches.

inadmissible under Fed. R. Evid. 408. That rule makes inadmissible any settlement offers or statements made in compromise negotiations “when offered to prove liability for, invalidity of, or amount of a claim that was disputed as to validity or amount.” Fed. R. Evid. 408(a). In this letter, Purolite began by stating its desire to settle outstanding payments at issue between the parties, and it set forth Purolite’s positions and calculated the royalties in the process of proposing a settlement on particular terms. Accordingly, Rule 408 bars Layne’s use of this letter to prove the amount of its claim against Purolite.¹⁷ Because Layne has offered no other evidence to support that amount, the issue remains for proof at trial, and the Court denies summary judgment on this claim with respect to the issue of the amount of damages.

C. Claim for Breach of Section 11.2

Layne also seeks summary judgment on its claim for a permanent injunction based on Purolite’s alleged breach of the following provision contained in Section 11.2 of the Agreement:

¹⁷The cases cited by Layne on this issue are inapposite. In two of the cases, the courts noted that Rule 408 permits the use of statements in settlement negotiations for purposes other than those prohibited in the rule, such as to show an admission of fact. *See Vulcan Hart Corp. v. NLRB*, 718 F.2d 269, 277 (8th Cir. 1983); *Urigo v. Parnell Oil Co.*, 708 F.2d 852, 854 (1st Cir. 1983). In this case, however, Layne seeks to use the evidence to establish the amount of its claim—a use expressly prohibited by the rule. The other two cases cited by Layne were not decided by reference to Rule 408, and thus they are unhelpful. *See Cooper v. Brown*, 126 F.2d 874, 878 (3d Cir. 1942); *Nebraska Drillers, Inc. v. Westchester Fire Ins. Co. of N.Y.*, 123 F. Supp. 678, 682 (D. Colo. 1954).

11.2 *Restrictions on Purolite.* . . . During the Term and thereafter, Purolite agrees not to directly or indirectly use any Intellectual Property resulting from its activities under this Agreement to directly or indirectly manufacture, sell, supply or use any products or media substantially similar to, or competitive with, the Media (excluding any existing product already manufactured by Purolite as of the date of this Agreement) or other products of SolmeteX.

This provision essentially prohibits Purolite from using any “Intellectual Property” resulting from its acts under the Agreement to compete with Layne. Purolite does not dispute that an injunction would be appropriate if its breach of this provision is shown. Nevertheless, Purolite opposes summary judgment on this claim for three reasons, which the Court addresses in turn.

1. SURVIVAL OF TERMINATION

According to Section 11.2, this restriction applies “[d]uring the Term and thereafter.” “Term” is defined in Section 8.1 of the Agreement as the initial ten-year term of the Agreement that is automatically renewed for another ten-year period if no contrary notice is given by either party. Purolite argues that, despite the language making the provision applicable during the Term “and thereafter,” this provision should be deemed not to have survived Layne’s termination of the Agreement.

Purolite first relies on the survival provision, Section 8.4, which reads as follows:

8.4 *Survival of Provisions.* Any provisions which by their nature should survive termination or expiration of this Agreement, will survive, including Sections 1.6, 4.4, 4.5, 4.6, 5.3, 6.5, 8.3, 8.4, 9, 10, 12, and 13.

Purolite notes the absence of Section 11.2 from the list of the surviving provisions, and

it argues that the parties would have included Section 11.2 in that list if they intended this provision to survive termination. The Court rejects this argument. The parties did not simply list all surviving provisions; rather, Section 8.4 clearly provides that all provisions survive termination “which by their nature should survive termination.” The list of specific sections in Section 8.4 is not described therein as exhaustive. Therefore, the issue is whether the provision in Section 11.2 is one that should survive by its nature.

Purolite also argues that the word “thereafter” in Section 11.2 should be interpreted to refer only to the “supplemental term” (Purolite’s words) described in Section 8.3.3. That section provided that if the Agreement did not renew after the initial ten-year term, Purolite could nonetheless, for a period of two years, continue to supply the Media to SolmeteX and existing customers. Purolite argues that the parties used “thereafter” in Section 11.2 only to restrict Purolite during such a two-year additional period and not to restrict Purolite forever. The Court rejects this argument as well, as there is no support in the Agreement for such a reading. Section 11.2 did not make its restriction applicable only during the Term of the Agreement and during the two-year period following termination; rather, the parties used “thereafter” without further limitation in describing the applicability of the provision.

Thus, the Court does not agree with Purolite that the Agreement is ambiguous with respect to the survivability of this provision of Section 11.2. Section 8.4 plainly provides that provisions survive termination if they should survive by their nature.

Section 11.2 is such a provision, as it plainly makes the restriction applicable while the Agreement is in force “and thereafter.” Moreover, the nature of the provision itself is such that one would expect it to survive. Accordingly, the Court concludes as a matter of law that this provision in Section 11.2 did survive the termination of the Agreement, and Layne may therefore assert a breach of this provision occurring after the termination, as it has done here.¹⁸

2. UNREASONABLE RESTRICTION ON COMPETITION

Second, in opposition to Layne’s motion for summary on this claim, Purolite argues that this restriction should be invalidated as an unreasonable restriction on competition under Delaware law. Purolite also seeks summary judgment on this claim for this reason.

In support of this argument, Purolite relies on Delaware cases involving non-compete provisions in employment contracts or contracts for the sale of businesses, in which the courts applied the rule that such provisions must be reasonable, including with respect to geographical and temporal limits. *See, e.g., Tull v. Turek*, 147 A.2d 658, 186-90 (Del. 1958) (contract for sale of business); *Faw, Casson & Co. v. Cranston*, 375 A.2d 463, 465 (Del. Ch. 1977) (employment contract). Purolite also cites to Section 188(1) of the Restatement, which provides as follows:

¹⁸Given the plain language of Section 11.2 making this provision applicable after the Agreement is otherwise no longer in force, the Court rejects Purolite’s argument that Layne was required to argue in its initial brief that the provision survived termination.

(1) A promise to refrain from competition that imposes a restraint that is ancillary to an otherwise valid transaction or relationship is unreasonably in restraint of trade if

(a) the restraint is greater than is needed to protect the promisee's legitimate interest, or

(b) The promisee's need is outweighed by the hardship to the promisor and the likely injury to the public.

Restatement (Second) of Contracts § 188(1). Purolite argues that this provision of Section 11.2 is an unreasonable restraint on its ability to compete for the same reasons discussed above with respect to Purolite's claim under Kansas law—the restraint is not limited by geography or duration; the restraint goes beyond that necessary to protect Layne's interests, in light of the patent statutes and the fact that Purolite's license terminates with the termination of the Agreement; and competition is suppressed in a limited market.¹⁹

The Court concludes that the restriction in Section 11.2 of the Agreement is not invalid. Under Delaware law, including the cases cited by Purolite, the ultimate inquiry

¹⁹Purolite argues that Layne must establish that the restraint on competition is reasonable by clear and convincing evidence, based on Delaware caselaw stating that a party seeking specific performance of a non-competition provision must meet that evidentiary standard. *See, e.g., American Homepatient, Inc. v. Collier*, 2006 WL 1134170, at *2 (Del. Ch. Apr. 19, 2006) (unpub. op.). The applicability of that standard to this case is not clear, however, in light of the fact that the provision here is not like the typical employment or sale-of-business non-compete analyzed by the Delaware courts, as discussed below. Nevertheless, the Court concludes that the result here would be the same whether or not that standard is applied, as the evidence showing the reasonableness of the provision is clear and convincing in this case.

is whether the restraint on competition is reasonable. *See, e.g., Faw*, 375 A.2d at 467 (modern rule is “that a restrictive covenant should be enforced only to the extent that it is reasonable so to do”). Similarly, the general rule from the Restatement is that “[a] promise is unenforceable on grounds of public policy if it is unreasonably in restraint of trade.” Restatement (Second) of Contracts § 186(1). Purolite argues that the lack of any geographical or temporal limit makes the restriction in Section 11.2 unreasonable and unenforceable under Delaware law; that requirement is most often found in employment contract cases, however, and such contracts, because they affect a person’s ability to make a living, are subject to a heightened level of scrutiny. *See Elite Cleaning Co. v. Capel*, 2006 WL 1565161, at *3 (Del. Ch. June 2, 2006) (unpub. op.) (“Where a restriction on the ability to be gainfully employed is involved, the customary sensitivity of a court of equity to the particular interests affected by its remedies is heightened.”) (citing *McCann Surveyors, Inc. v. Evans*, 611 A.2d 1, 3-4 (Del. Ch. 1987)); *Faw*, 375 A.2d at 465 (“covenants are subject to somewhat greater scrutiny when contained in an employment contract as opposed to contracts for the sale of a business”). Indeed, Layne’s interest as the promisee in restraining competition by the promisor is even greater than in the case of the sale of a business. In the latter case, the purchaser seeks to restrict competition generally by the buyer in a market to protect the value of the purchased business. In this case, the contractual provision does not merely restrain competition by Purolite; rather, Section 11.2 prohibits Purolite’s use of certain

intellectual property—intellectual property given to Purolite by SolmeteX or gained by Purolite because of the Agreement by which SolmeteX licensed Purolite’s use of SolmeteX’s intellectual property—to compete with SolmeteX (Layne). Thus, SolmeteX had (and Layne has) a great and legitimate interest in protecting that intellectual property by enforcement of the restriction in Section 11.2.

Other courts have recognized that this interest in protecting intellectual property is more worthy of protection than in the case of the typical non-compete. For instance, in *Harvey Barnett, Inc. v. Shidler*, 338 F.3d 1125 (10th Cir. 2003), the Tenth Circuit held that the district court had erred in determining that a confidentiality provision was a disguised restrictive covenant that was unenforceable under Colorado law. *See id.* at 1134. The Tenth Circuit reasoned that confidentiality and non-disclosure agreements should not be characterized as restrictive covenants because they “serve entirely different purposes than do agreements not to compete and must be analyzed on the basis of those distinct purposes alone.” *See id.* (quoting *MAI Basic Four, Inc. v. Basis, Inc.*, 880 F.2d 286, 288 (10th Cir. 1989)).²⁰

IDX Systems Corp. v. Epic Systems Corp., 285 F.3d 581 (7th Cir. 2002), is similarly instructive. In that case, the Seventh Circuit overturned the district court’s conclusion that certain non-disclosure provisions were unenforceable under Wisconsin

²⁰The Tenth Circuit stated that, although *MAI Basic* involved a contract dispute in New Mexico, its rationale was equally applicable in the case before it under Colorado law. *See Harvey Barnett, Inc.*, 338 F.3d at 1134 n.12.

law because they were unlimited in temporal and geographical scope and thus unduly restrained trade. *See id.* at 584-85. The Seventh Circuit reasoned as follows:

In reaching this conclusion, the district court relied on decisions requiring restrictive covenants limiting competition between employers and their ex-employees to be reasonable, and that in Wisconsin entails some restrictions on time and scope. Rules limiting the extent of no-compete clauses are based on the fact that they tie up human capital and, if widely adopted, may have the practical effect of preventing horizontal competition in economically significant markets. But neither rationale applies to contracts that restrict the use of particular information between businesses that have vertical (supplier-to-customer) rather than horizontal (competitor-to-competitor) relations. IDX did not contract for limitations on Epic's ability to compete; contracts between IDX and the Foundation are vertical in nature and protect intellectual property without affecting competition. They may compel rivals such as Epic to do more work to develop software independently, but this promotes rather than restricts competition. *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470 (1974), holds that trade-secret law is compatible with antitrust law; the same can be said for contracts protecting intellectual property that, though not demonstrably a trade secret, is commercially valuable. Rivals such as Epic, as non-parties to the vertical arrangements, remain entitled to discover and use the information independently and to compete vigorously. Nothing in the antitrust laws gives one producer a right to sponge off another's intellectual property, even when the producer of that knowledge has a market share much larger than IDX's.

The parties have not cited, and we have not found, any Wisconsin statute or decision subjecting non-disclosure agreements between suppliers and users of intellectual property to the rules that govern non-competition clauses between employers and employees. To the contrary, [a Wisconsin case] tells us that Wisconsin allows a much greater scope of restraint in contracts between vendor and vendee than between employer and employee. . . . Restrictions on disclosure may make intellectual property more valuable to its producer, and thus promote both the creation of knowledge and competitions against other firms in the same industry. No one doubts this with physical property: General Motors is entitled to control 100% of its own output of mufflers, without handing any of them over to Ford or Toyota or Volkswagen. Permitting a producer the full

return on its investment in mufflers (or any other product) is essential to promote investment in productive assets and rivalry with other producers. Just so with knowledge, an increasingly vital input into production. Why should IDX or any other maker of intellectual property be placed under legal rules that effectively entitle its rivals to a chunk of that asset's value?

No Wisconsin decision of which we are aware requires temporal or geographic limits as a condition to the enforcement of a non-disclosure agreement for intellectual property.

Id. at 585-86 (citations and internal quotation omitted). This analysis applies equally in this case, which also involves both a relationship that is more vertical than horizontal in nature and a lack of governing caselaw invalidating contracts intended to protect intellectual property.

Purolite attempts to distinguish these cases from the Tenth Circuit and the Seventh Circuit as involving non-disclosure provisions, unlike the present case involving a non-competition provision. As the Court explained above, however, the restriction in Section 11.2 does not simply prohibit competition by Purolite, but instead prohibits Purolite's use of intellectual property gained as a result of its relationship with SolmeteX in order to compete with SolmeteX. Thus, as in the case of a non-disclosure provision, the intent of the restriction is to protect intellectual property from its ultimate use by the promisor (as in the present case) or by a third party (in the case of a non-disclosure provision). Thus, the Court finds the reasoning of the Tenth Circuit and, especially, the Seventh Circuit to be helpful and persuasive.

The Court concludes that the restriction in Section 11.2 is reasonable and

therefore enforceable under Delaware law, for the reasons stated by the Seventh Circuit in *IDX* and those stated by this Court above in upholding this restriction against a challenge under the Kansas restraint-of-trade statute. *See supra* Part III.G. In short, the restriction represents a reasonable attempt by SolmeteX to protect its intellectual property. As in *IDX*, the competitor (Purolite) is entitled to compete with the promisee (Layne) by making and selling products not based on or resulting from the promisee's own intellectual property. The restriction is reasonable even without the type of geographical and temporal limitations required for other types of contractual non-compete provisions. The Court also rejects Purolite's argument that the restriction is greater than necessary; patent law is not sufficient by itself to protect Layne, as the restriction applies also to non-patented intellectual property, and the Agreement's license provisions would not necessarily protect Layne from Purolite's use of the intellectual property to create a different product that competes with Layne's products (as is alleged to have occurred here). Purolite has not cited any Delaware cases indicating that the type of restriction found in Section 11.2 relating to the use of intellectual property should be invalidated. The Court therefore concludes that the restriction is not invalid as an unreasonable restriction on competition, and Purolite's motion for summary judgment on Layne's claim under Section 11.2 is denied.

3. MERITS OF THE CLAIM

Purolite also argues that Layne's motion for summary judgment on this claim for

breach of the restriction in Section 11.2 should be denied on the merits. Purolite first argues in this regard that the restriction should be interpreted not to apply to its use of intellectual property that is jointly-owned by the parties. Purolite contends that its interpretation is compelled by reading Section 11.2 in conjunction with Section 4.4 of the Agreement. Section 4.4, which required Purolite to use its best efforts to conduct research and development to improve the product, provides as follows:

Any improvements, discoveries and changes by Purolite in the course of this R&D, and any Intellectual Property conceived, created or developed by Purolite in performance under this Agreement will be the joint property of both Purolite and SolmeteX (provided that all Intellectual Property concerning SolmeteX's chemistry will belong solely to SolmeteX, whether arising before, during, or after the Term).

Purolite argues that Section 4.4, which gives Purolite rights in improvements made during the course of the Agreement, would be defeated if Section 11.2 prohibited its own use of such improvements.

The Court rejects this interpretation by Purolite. "Intellectual Property" is defined in Section 4.1 of the Agreement to include all discoveries and improvements, whether patentable or not, as well as all patents, trade secrets, confidential information, copyrights, trademarks, and other similar rights relating to the Media. By its terms, Section 11.2 does not apply only to Purolite's use of SolmeteX's intellectual property; rather, it applies to Purolite's use of any "Intellectual Property," which would include improvements jointly owned by Purolite. Such an interpretation in accordance with the plain language of the Agreement would not defeat Rule 4.4, as the recognition or grant

of a property right to Purolite is not inconsistent with a restriction, to which Purolite agreed in exchange for benefits under the Agreement, on Purolite's use of such property, which exists only because of the Agreement, to compete with the party that provided that base technology. Accordingly, there is no basis to reject a plain reading of Section 11.2 to include jointly-owned intellectual property within the restriction.

In support of its claim of a breach by Purolite, Layne has provided evidence of the following: Purolite impregnated a resin with iron only after beginning the relationship with SolmeteX; SolmeteX brought that process to Purolite; the provision of that intellectual property to Purolite by SolmeteX constituted the basis for the Agreement; the final product manufactured by Purolite under the Agreement, named ArseneXnp, was identical (only the name was changed) to FerrIX, the product manufactured and sold by Purolite after the termination of the Agreement; and Purolite continues to sell FerrIX, a product that is competitive with Layne's products. Purolite has not controverted any of these facts, and the Court agrees with Layne that these facts establish a breach by Purolite of Section 11.2. Purolite has provided evidence that it made changes and improvements to the product over the course of the Agreement, and that its present product is therefore different from the product first licensed to it by SolmeteX, and it further argues that there is a question of fact whether its product uses SolmeteX's intellectual property (SolmeteX's chemistry). As noted above, however, whether Purolite's product uses SolmeteX's intellectual property is not determinative,

as Section 11.2 prohibits Purolite’s use of any intellectual property (including jointly-owned property) resulting from the Agreement to compete with Layne. Similarly, the fact that Purolite made improvements is immaterial, as any such improvements made during the Agreement would constitute “Intellectual Property” for purposes of this restriction in Section 11.2. Purolite has not disputed that its product is at least based on improvements to the initial product supplied by SolmeteX (as its executives have admitted that FerrIX is identical to the most-improved version of ArseneX). Accordingly, Layne has established a breach of Section 11.2 as a matter of law.

As noted above, Purolite has not disputed that an injunction would be appropriate here if a breach is shown. Accordingly, the Court grants Layne summary judgment on its claim for a permanent injunction, and Purolite is hereby permanently enjoined from further breaching Section 11.2, including making, selling, or using the product FerrIX A33E or any substantially similar product that uses “Intellectual Property” (as defined in the Agreement) resulting from Purolite’s activities under the Agreement.²¹

D. Claim for Breach of Section 10.1

Purolite seeks summary judgment on Layne’s claim for breach of Section 10.1 of the Agreement. Layne has not sought summary judgment on this claim. Section 10.1

²¹Layne did not move for summary judgment on its claim for damages for breach of this provision of Section 11.2; therefore, the amount of damages suffered by Layne for this breach (which has been established as a matter of law) remains an issue for trial.

provides as follows:

10.1 *Prior NDAs.* The parties have executed a Non-Disclosure Agreement dated as of March 10, 2004 (the “SolmeteX NDA”) and a Non-Disclosure Agreement dated as of April 12, 2004 (the “Purolite NDA” and together with the SolmeteX NDA, the “NDAs”). Copies of the NDAs are attached hereto as Appendix D. The parties intend that the NDAs will continue to govern their relationship under this Agreement. Purolite agrees that it will not disclose to or use or facilitate or permit others to use SolmeteX’s Intellectual Property or confidential information for any reason or purpose including to compete with SolmeteX. Purolite will completely safeguard all of SolmeteX’s Intellectual Property and confidential information.

In its motion, Purolite divides Section 10.1 into two potential breaches asserted by Layne: (1) breach of the first three sentences of Section 10.1 regarding NDAs, based on an alleged breach by Purolite of the underlying SolmeteX NDA; and (2) breach of the fourth and fifth sentences of Section 10.1, based on Purolite’s alleged use of SolmeteX’s intellectual property or confidential information. Purolite seeks summary judgment on each of these claims of breach.

1. INCORPORATION OF THE OTHER AGREEMENT

Pursuant to explicit language in the contract by which Layne acquired the assets of SolmeteX, Layne assumed SolmeteX’s rights under the Agreement, but it did not assume SolmeteX’s rights under the SolmeteX NDA. Thus, although Layne has standing to assert SolmeteX’s rights under the Agreement (as this Court has previously ruled), it would not have standing to bring a claim against Purolite for breach of the SolmeteX NDA. Layne does not dispute these facts. Layne argues, however, that Section 10.1 of

the Agreement incorporates by reference the SolmeteX NDA. Thus, Layne argues that a breach of the SolmeteX NDA also constitutes a breach of the Agreement, which it has standing to enforce.

The Court agrees with Purolite, however, that Section 10.1 does not incorporate by reference the SolmeteX NDA. Section 10.1 does not contain language of incorporation or any other language evidencing an intent to include the terms of the SolmeteX NDA as terms of the Agreement. Instead, Section 10.1 merely recognizes the existence of the NDAs and states the parties' intent that the NDAs continue to have force. Thus, the parties provided that the Agreement did not supersede or otherwise invalidate the NDAs. The Court agrees with the following reasoning by a Delaware court:

A mere reference in one agreement to another agreement, without more, does not incorporate the latter agreement into the former by reference. To incorporate one document into another, an explicit manifestation of intent is required.

Wolfson v. Supermarkets General Holdings Corp., 2001 WL 85679, at *5 (Del. Ch. Jan. 23, 2001) (unpub. op.). Section 10.1 does not contain any language indicating an intent to do more than simply recognize and reaffirm the ongoing validity of the NDAs; therefore, the Court concludes as a matter of law that Section 10.1 does not incorporate the SolmeteX NDA by reference.

Layne does not dispute that it lacks standing to enforce the SolmeteX NDA.²² Therefore, because Layne cannot enforce the NDA's terms through the Agreement, Purolite is awarded summary judgment on any claim by Layne for breach of the Agreement based on an alleged breach of the SolmeteX NDA.

2. USE OF INTELLECTUAL PROPERTY

The fourth sentence of Section 10.1 of the Agreement provides:

Purolite agrees that it will not disclose to or use or facilitate or permit others to use SolmeteX's Intellectual Property or confidential information for any reason or purpose including to compete with SolmeteX.

Layne asserts a claim for breach of this provision based on Purolite's alleged use of its intellectual property. It does not allege that Purolite disclosed its intellectual property to a third party in breach of Section 10.1.

In seeking summary judgment on this claim, Purolite argues that this provision effectively prohibits only its disclosure of intellectual property ("IP") to third parties, and that it does not prohibit its own use of such property. Purolite parses the words "will not disclose to or use or facilitate or permit others to use" to mean that it will not do the following: "disclose to . . . others" the IP; "use . . . others to use" the IP; "facilitate . . . others to use" the IP; or "permit others to use" the IP. Thus, under its interpretation, Purolite is not forbidden to "use" the IP; it is only forbidden to "use . . . others to use"

²²Moreover, Layne has not asserted a claim under the SolmeteX NDA in the Pretrial Order.

the IP. Purolite argues that the parties would not have intended to prohibit Purolite's use of the IP in light of the Agreement's basic purpose to allow Purolite to use the IP to manufacture and supply the product based on SolmeteX's chemistry.

The Court concludes as a matter of law, however, that this provision in Section 10.1 of the Agreement does apply to and prohibit Purolite's own use of the IP. Purolite's interpretation depends on an intent by the parties to prohibit Purolite's "use of others to use" the IP. Such language is nonsensical, however. The only reasonable interpretation of the first "use" in the sentence is that it refers to use by Purolite of the IP, not use by Purolite of others. Although this sentence may not be a model of clarity and may have been inartfully drafted, the language unambiguously evidences an intent that Purolite be prohibited from using the IP. Moreover, such a prohibition does not conflict with the Agreement as a whole, as the parties could quite reasonably have intended to prohibit Purolite's use of SolmeteX's IP except for purposes explicitly permitted in the Agreement—a general prohibition that would be absent from the Agreement under Purolite's interpretation. Indeed, this prohibition complements the restriction in Section 11.2 against Purolite's use of any IP gained under the Agreement (not only SolmeteX's IP) for the specific purpose of competing with SolmeteX.

Accordingly, the Court rejects Purolite's interpretation of this provision in Section 10.1 of the Agreement, and the Court denies Purolite's motion for summary judgment on Layne's claim for breach of Section 10.1 based on Purolite's use of Layne's

intellectual property.

V. Plaintiffs' Patent Claims

Plaintiffs have moved for summary judgment on their claims for infringement of the patent, including with respect to Purolite's invalidity defenses (Doc. # 408). By cross-motion, Purolite also seeks summary judgment on plaintiffs' infringement claims and on various defenses to those claims.

A. Infringement

1. MARKING ESTOPPEL

Plaintiffs assert that Purolite is precluded from contesting the issue of infringement under the doctrine of marking estoppel. As adopted by some courts, this doctrine provides that, "under some circumstances, a party that marks its product with a patent number is estopped from asserting that the product is not covered by the patent." *See SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 859 F.2d 878, 890 n.9 (Fed. Cir. 1988) (citations omitted). Plaintiffs note that, although Purolite did not mark either its product manufactured under the license from Layne (ArseneX) or its subsequent product (FerrIX) by reference to the patent, it did sell ArseneX (but not FerrIX) with the reference "patent pending." Plaintiffs argue that the marking estoppel doctrine should be extended to apply to such conduct.

The Court holds as a matter of law that plaintiffs may not rely on this doctrine in this case. First, the Federal Circuit has never adopted the doctrine, including in at least three instances when given the opportunity to do, and those opinions cast doubt on whether it would adopt and apply the doctrine in this case. *See SmithKline*, 859 F.2d at 890-91 (concluding that, “[w]hatever the validity of the ‘marking estoppel’ line of cases,” the doctrine would not apply in that case); *High Frequency Prods., Inc. v. Wynn’s Climate Sys., Inc.*, 1996 WL 217840, at *2 (Fed. Cir. Apr. 30, 1996) (unpub. op.) (where district court concluded that the marking estoppel doctrine was no longer viable, court deemed it unnecessary to decide that issue because the doctrine would be inapplicable in that case at any rate); *Slip Track Sys., Inc. v. Metal Lite, Inc.*, 113 F. App’x 930, 934 (Fed. Cir. 2004) (refusing to address the continued viability of the marking estoppel doctrine because it would not apply in that case). For instance, in the most recent case, the Federal Circuit concluded that the doctrine would not apply there in part because there was no evidence that the marking party believed its product to fall outside the patent’s claim but nonetheless deliberately mismarked the product. *See Slip Track*, 113 F. App’x at 934. Similarly, in the present case, there is nothing to suggest that Purolite deliberately mismarked ArseneX with “patent pending” while believing that the product was not covered by the patent application that was the subject of its license agreement with SolmeteX.

Moreover, plaintiffs have not pointed to any authority (and the Court has found

none) that would permit this doctrine to be extended beyond a reference to an actual patent to apply also to a “patent pending” reference. The Court does not agree that the rationale for the doctrine necessarily encompasses the “patent pending” situation. By referring to an actual patent, a manufacturer has represented to the public that the product falls with the scope of that patent; by saying “patent pending,” however, the manufacturer cannot be telling the public that the product is covered by whatever patent issues, as there is no guarantee that the eventual patent (if issued) will not differ from the application. Without such supporting authority and in the absence of scienter, as discussed above, the Court cannot conclude that the Federal Circuit would both recognize the doctrine and allow the doctrine to be applied in this case. Accordingly, the Court denies plaintiffs’ request for summary judgment on this issue, and it grants Purolite’s motion for summary judgment on this theory asserted by plaintiffs.

2. EQUIVALENTS, INDIRECT INFRINGEMENT

Although Purolite expresses its uncertainty concerning whether plaintiffs are pursuing the theories (they are not mentioned in the Pretrial Order), Purolite moves for summary judgment on any claim by plaintiffs for infringement based on indirect infringement or the doctrine of equivalents, based on a lack of any evidence to support such theories. Plaintiffs have not opposed this request for summary judgment. Accordingly, the Court awards summary judgment in favor of Purolite on any claim for infringement asserted by plaintiffs based on a theory of indirect infringement or the

doctrine of equivalents.

3. “DISPERSALTHROUGHOUT” (CLAIMS 1 AND 15)

“Determining whether a patent claim has been infringed involves two steps: (1) claim construction to determine the scope of the claims, followed by (2) determination of whether the properly construed claim encompasses the accused structure.” *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998) (citation omitted). The first step involves a question of law for the court, while the second presents a question of fact, although “a literal infringement issue is properly decided on summary judgment when no genuine issue of material fact exists, in particular, when no reasonable jury could find that every limitation recited in the properly construed claim either is or is not found in the accused device.” *See id.* (citations omitted).

In support of summary judgment, plaintiffs have provided evidence and argued that the accused product, FerrIX, meets all of the limitations in, and thus infringes, Claim 1 (and dependent Claims 7, 10, 11, 12, and 13) and Claim 15. In response, and in its own motion for summary judgment, Purolite points to only three claim limitations (two in Claim 1, one in both Claim 1 and Claim 15) that it argues FerrIX does not satisfy.²³

Purolite first argues that plaintiffs cannot satisfy the limitation in Claim 1 and

²³Purolite does not make any separate arguments concerning dependent Claims 7, 10, 11, 12, and 13. Instead, Purolite argues only that plaintiffs’ inability to show infringement of independent Claim 1 also dooms their claims for infringement of those dependent claims.

Claim 15 of a dispersal “throughout the intermediate.” Claim 1 of the patent states as follows:

1. A method for synthesizing a selective adsorbent, the method comprising the steps of:
reacting a material that exhibits anion exchange behavior with an anionic oxidant to produce an intermediate; and reacting, with said intermediate, a solution of a salt of a metal, said salt being capable of being oxidized, thereby precipitating and dispersing a salt of said metal throughout the intermediate by the action of the oxidant and producing an adsorbent capable of exchanging anions.

(Emphasis added.) Claim 15 states as follows:

15. An adsorbent for the selective removal of ligands from fluids, said adsorbent [*sic*] comprising a polymeric anion exchange resin containing particles of an oxygen-containing compound of iron dispersed throughout the resin.

(Emphasis added.) Plaintiffs contend that the limitation underlined above in each claim is met here because the accused product contains iron oxide in every part of the resin beads that make up the adsorbent, including the core section, the shell section, and even the ring or “halo” between the core and shell. Purolite responds that the iron oxide has not been dispersed “throughout” the intermediate or resin because only a very small percentage of the iron oxide has penetrated to the core of the bead in the accused product.

At the claim construction stage of the litigation, the parties disputed the proper construction of the terms “dispersing” / “dispersed” and “throughout”. In its claim

construction order, the Court construed “dispersing” and “dispersed” to mean “distributing or spreading” and “distributed or spread” respectively. The Court construed “throughout” as follows:

Dispersion “throughout the intermediate” and “throughout the resin” in Claims 1 and 15 respectively means all the way through the intermediate or resin, or through the whole of it, or to every part of it, or everywhere in it. Dispersion “throughout” the intermediate or resin is not achieved merely by having some particles reach the interior or go beyond the periphery of the intermediate or resin. On the other hand, dispersion “throughout” the intermediate or resin does not require that a stoichiometric amount was used or that every possible exchange site was reached.

In arguing that the iron oxide in the accused product is not dispersed “throughout” the beads, Purolite relies on the analysis of finished beads by its expert, Dr. Stack. Dr. Stack measured the iron content in each of two beads at 19 points extending from the center of the bead to the outside. Those measurements showed that the iron was concentrated primarily in the outer part of each bead. For instance, Dr. Stack states that the iron concentration near the periphery was more than ten times greater than in the core of the bead and more than 40 times greater than in the halo of the bead; and that the iron contained in the core and halo make up only 0.8 percent of the total iron in the bead. Plaintiffs argue from this evidence that the iron has not been distributed “throughout” the bead—in every part of it or everywhere in it—because there are relatively few iron particles in the core, which therefore contains relatively large areas without iron.

The Court concludes, however, that the accused product does contain iron

distributed “throughout” the beads as a matter of law. Dr. Stack’s measurements establish, and thus it is undisputed, that there is at least some measurable amount of iron at each radial point in the bead.²⁴ This evidence establishes that a species of iron has been dispersed all the way through the bead, and through the whole of it, and in every part of it, and everywhere in it—and thus, “throughout” the bead, under the Court’s construction of that term. The fact that there are gaps or areas in the bead without any iron does not alter that conclusion, as gaps necessarily occur when particles are dispersed (spread) in any concentration.

Purolite argues that, even if the Court did not require uniformity of concentration of the particles in construing “throughout”, it should now construe the term to require at least a certain minimum concentration (such as one percent of the total amount in the bead) at each radial point in the bead (which standard the accused product would fail under Dr. Stack’s measurements). The Court declines this invitation to alter its construction, however, as there is no basis in the claims or specification of the patent (or even in any extrinsic evidence) for construing “throughout” in that manner and thus adding a limitation to the claims (let alone any basis for choosing a standard of one

²⁴The Court rejects Purolite’s argument that there is no evidence of iron within the halo between the bead’s shell and core sections. Dr. Stack’s graph of his iron measurements for each of the two beads shows a concentration above zero for the halo point, and, indeed, plaintiffs have argued that the concentration at the shell was more than 40 times that in the halo, which calculation presumes some measurable amount at the halo. Dr. Stack’s deposition testimony that the halo “effectively” has no iron does not controvert his own measurements showing at least some amount of iron there.

percent at each of the points chosen by Dr. Stack).

Accordingly, the undisputed evidence establishes as a matter of law that the accused product contains iron dispersed “throughout” the intermediate or resin, pursuant to the Court’s construction of the pertinent claim limitation in Claims 1 and 15. Plaintiffs are therefore awarded summary judgment on that particular issue.

Purolite also points out that, even if some species of iron has been dispersed “throughout” each bead, the claims require that the dispersed substance be a salt of a metal (Claim 1) or an oxygen-containing compound of iron (Claim 15). Plaintiffs contend that those requirements are met because the dispersed particles in the accused product are iron oxide. Purolite concedes that the iron concentrated so heavily in each bead’s shell section is indeed iron oxide. Purolite argues, however, that a question of fact arises concerning whether the iron that has been dispersed to the core of each bead—and thus whether the iron that has been distributed “throughout” each bead—is iron oxide as alleged or some other species of iron.

The Court agrees that this issue presents a question of fact for trial. Plaintiffs rely on the testimony of certain employees of Purolite, who testified that the beads in the accused product are impregnated with iron oxide. Those witnesses did not testify, however, that iron oxide could be found in both the shell and the core of the beads, or that some other species of iron was not also contained in the beads. Although plaintiffs’ expert, Dr. Clifford, opines that the iron in the core is iron oxide, Dr. Stack has

challenged the bases for that opinion and has provided a reason why one may not presume that the iron in the core is iron oxide from the mere fact that the iron in the shell is iron oxide. Therefore, if the evidence is considered in the light most favorable to Purolite, plaintiffs cannot establish that the iron in the core is iron oxide and thus that iron oxide has been dispersed “throughout” the beads. Accordingly, an issue of fact remains, and neither side is entitled to summary judgment concerning this specific issue of whether iron oxide, and not merely iron or some other species of iron, has been dispersed “throughout” the intermediate or resin.

4. “BY THE ACTION OF THE OXIDANT” (CLAIM 1)

Purolite next argues that plaintiffs cannot satisfy the limitation in Claim 1 that the dispersal of the iron oxide be “by the action of the oxidant.” The parties agree that in the case of the accused product, the oxidant is permanganate. In support of this argument, Purolite relies only on the evidence of a test conducted by Dr. Stack. In that test, when Dr. Stack loaded virgin beads with permanganate in the concentration used in the manufacture of the accused product, he discovered that the permanganate did not travel to the core section of the beads. Purolite argues that this test demonstrates that the iron in the core was not dispersed there “by action of” the permanganate—and thus must have been dispersed there in some other way—because otherwise permanganate would have been found in the core of the tested beads.

The Court rejects this argument by Purolite for a number of reasons. First, Dr.

Stack's test involving permanganate was not intended to test whether the iron in the core arrived there by action of the oxidant. Instead, Dr. Stack's report indicates that he loaded the beads with permanganate to confirm the stratification of the iron concentration in the bead (heavily concentrated in the shell section). Thus, it is not surprising that Dr. Stack's report does *not* contain a statement by which he opines that the iron in the core section of the bead in the accused product is not dispersed there "by action of" the permanganate. Second, in conducting this test, Dr. Stack did not attempt to replicate the actual manufacturing process for the accused product, or even measure the manganese in the product itself. There is no basis to conclude that loading permanganate onto virgin beads would provide a reliable indication as to whether iron is dispersed to the core section in the finished product by action of the permanganate—although the lack of such a basis is not surprising given the fact that Dr. Stack does not appear to have intended that his test be used in that way. Thus, the test is not scientifically reliable to make the intended point. Third, Purolite has made an unwarranted inferential leap here. The fact that the permanganate does not accompany the iron to the core does not necessarily mean, as a matter of logic, that the permanganate, by its action, could not have caused the iron to travel to the core. Again, the lack of that foundation, which would require expert opinion in this case, is not surprising given Dr. Stack's different purpose in conducting the test.

Therefore, Purolite has failed to create an issue of fact by providing evidence to

controvert plaintiffs' evidence that the iron has been dispersed throughout the beads of the accused product by action of the permanganate, as required for infringement of Claim 1. Accordingly, this defense fails as a matter of law; plaintiff's summary judgment motion is granted, and Purolite's summary judgment motion is denied, to that extent.

5. "SALT OF SAID METAL" (CLAIM 1)

Finally, Purolite argues that plaintiffs cannot satisfy the limitation in Claim 1 that the substance dispersed in the second step of the method in Claim 1 be a "salt of said metal." It is undisputed that in the accused product, the substance dispersed is ferric oxide. In support of this argument, Purolite relies solely on deposition testimony by Dr. SenGupta, the inventor, concerning the following excerpt from the patent's specification:

The intermediate, produced by reacting the anion exchange material with an anionic oxidant, may be reacted with a solution of an oxidizable salt of a metal, preferably a ferrous salt such as ferrous sulphate, ferrous ammonium sulfate, ferrous chloride or ferrous acetate. The hydrated iron oxide particles precipitated in the anion exchange material can take various forms, such as hematite, [goethite], magnetite and ferrihydrite.

(Patent at 10:17-24.) In his deposition, Dr. SenGupta first confirmed that the "ferrous salts" listed in the excerpt are all "metal salts." Then Dr. SenGupta agreed that the four substances subsequently listed as exemplar forms of the "hydrated iron oxide particles" are all "metal oxides," different from "metal salts" such as the ferrous salts previously discussed. Based solely on that testimony, Purolite argues that because a metal oxide, such as iron (ferric) oxide, is different from a "metal salt," the accused product does not

include a dispersed “salt of said metal,” as required for infringement of Claim 1.

The Court also rejects this argument. The patent clearly contemplates that the substance dispersed may be an iron oxide. Thus, the Court construes “salt of said metal” as used in Claim 1 (an issue of law for the Court) to include iron oxides. The specification of the patent supports that construction, as the primary embodiments discussed by the patent’s specification involve the dispersion of HFO (“Hydrated Fe Oxide”), an iron oxide. *See* Patent at 3:7-8 (summary of invention), 3:23-25 (summary), 3:36-37 (summary), 5:16-18, 6:62-64.

The specification also confirms that the “salt of a metal” that is reacted in solution in Claim 1 is different from the “salt of said metal” that is dispersed:

The step of reacting a solution of a salt of a metal with the intermediate is carried out by passing a solution of the salt through the intermediate, thereby oxidizing the metal, and causing precipitation and dispersion of another salt, in which the metal is in a higher oxidation state than in the original salt.

(Patent 2:47-53 (summary of invention) (emphasis added).) Dr. Clifford’s report contains the opinion that the “salt of a metal” and the “salt of said metal” from Claim 1 are represented in the accused product by two different substances, ferrous sulfate heptahydrate and ferric oxide/hydroxide respectively. The language of Claim 1 supports this dichotomy—Claim 1 does not state that “said” salt of a metal (thus, the same “salt of a metal” that was reacted in solution) is dispersed; rather “a salt of said metal”

(potentially, then, a different salt of the same metal) is dispersed.²⁵ Thus, the fact that Dr. SenGupta, in discussing the excerpt from the specification, distinguished the ferrous salts that are reacted in solution in the invention from the metal oxides that are dispersed is not surprising. Dr. SenGupta did *not* testify that the “salt of said metal” from Claim 1 cannot be iron oxide; indeed, such a statement would completely contradict the specification for his patent. Moreover, even if Dr. SenGupta had so testified, such extrinsic evidence could not be considered to contradict a construction compelled by the patent itself. *See Novartis Pharmaceuticals Corp. v. Abbott Labs.*, 375 F.3d 1328, 1335 (Fed. Cir. 2004) (extrinsic evidence “may not be used to vary, contradict, expand, or limit the claim language from how it is defined, even by implication, in the specification or file history”).

For these reasons, Dr. SenGupta’s testimony does not provide evidence, in contravention of plaintiffs’ evidence that the accused product meets the limitations in Claim 1, that the ferric oxide dispersed in the accused product is not a “salt of said metal” as that term has now been interpreted by the Court. Accordingly, this defense

²⁵Based on an agreed construction, the Court construed the term “salt of a metal” to mean “the compound formed when the hydrogen of an acid is replaced by a metal, such as a solution of a ferrous salt, such as ferrous sulphate, ferrous ammonium sulfate, ferrous chloride, or ferrous acetate.” These examples from the Court’s construction are the same examples of the “oxidizable salt of a metal” that is reacted in solution, from the specification excerpt that Dr. SenGupta discussed in his deposition. Clearly, then, the Court construed only the term “salt of a metal” from Claim 1, and did not construe the term “salt of said metal” found later in Claim 1.

fails as a matter of law; plaintiff's summary judgment motion is granted, and Purolite's summary judgment motion is denied, to that extent.

6. SUMMARY OF INFRINGEMENT ISSUES

Thus, with respect to the issue of infringement, the only issue remaining for trial is whether the iron that is dispersed to the core section of the beads in the accused product is iron oxide, as required for infringement of Claim 1 (and thus dependent Claims 7, 10, 11, 12, and 13). In all other respects, plaintiffs have established infringement of Claim 1 as a matter of law, subject to Purolite's sole remaining invalidity defense, *see infra* Part V.B.5. Plaintiffs have established infringement of Claim 15 to the same extent, although, as discussed below, Purolite is entitled to summary judgment on its defense that Claim 15 is invalid, *see infra* Part V.B.6. Accordingly, Purolite is awarded summary judgment on plaintiffs' claim for infringement of Claim 15 of the patent.

B. Invalidity

1. LICENSE ESTOPPEL

Purolite seeks summary judgment on plaintiffs' theory that license estoppel precludes Purolite's assertion of patent invalidity. Plaintiffs concede that this theory has been abolished. Accordingly, the Court grants Purolite summary judgment on plaintiffs'

theory of license estoppel.²⁶

2. SCOPE OF INVALIDITY DEFENSES

a. Purolite argues that plaintiffs have not substantively opposed its motion for summary judgment with respect to the issue of invalidity based on (i) 35 U.S.C. § 112 as applied to Claim 15; or (ii) 35 U.S.C. § 112 ¶ 2 as applied to all of the patent's claims. The Court agrees with plaintiffs, however, that Purolite did not preserve any such claims in the Pretrial Order. Purolite argues that it did cite to Section 112 in the Pretrial Order. In stating its contentions in that order, however, Purolite very specifically alleged three bases for invalidity: Claims 1-14 fail to meet the enablement requirement of Section 112 because Claim 1 describes an inoperable process; the specification does not meet the written description and enablement requirements of Section 112 with respect to Claims 1-14 (i.e., Claim 1 and its dependent claims); and Claim 15 is anticipated and rendered obvious by prior art, pursuant to 35 U.S.C. §§ 102, 103. (See Pretrial Order ¶ 5.b.) Purolite thus gave notice that it intended to pursue only those specific theories of invalidity as applied to those specific claims. Purolite has not moved to amend the Pretrial Order to include any additional claim. Accordingly, Purolite may not assert these invalidity theories, and Purolite's motion for summary judgment on these theories is therefore denied.

²⁶Plaintiffs argue that Purolite nonetheless may not use invalidity as a defense to plaintiffs' claim for royalties. Because that claim is not at issue in these motions, the Court does not address that argument.

b. In opposing plaintiffs' motion for summary judgment, Purolite notes the statement in plaintiffs' statement of facts that performance of the reactions in Claims 1-14 is basic chemistry that has been practiced for decades. Purolite argues that by that statement plaintiffs have admitted that Claims 1-14 are invalid as anticipated under 35 U.S.C. § 102. Again, however, this specific theory of invalidity has not been preserved in the Pretrial Order, and therefore Purolite may not rely on the theory.

3. INOPERABLE PROCESS (CLAIM 1)

The patent in this case is presumed valid, and the burden of establishing invalidity rests on Purolite, the party asserting such invalidity. *See* 35 U.S.C. § 282. Purolite must establish invalidity by a heightened standard requiring clear and convincing evidence. *See Microsoft Corp. v. i4i Ltd. Partnership*, 131 S. Ct. 2238, 2244-49 (2011); *see also Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1359 n.5 (Fed. Cir. 2007) ("The 'clear and convincing' standard is an intermediate standard which lies somewhere in between the 'beyond a reasonable doubt' and the 'preponderance of the evidence' standards of proof."). The "clear and convincing evidence" standard applies in the summary judgment context. *See Invitrogen Corp. v. Biocrest Mfg., L.P.*, 424 F.3d 1374, 1378 (Fed. Cir. 2005).

Purolite asserts that Claim 1 of the patent is invalid in a number of respects under 35 U.S.C. § 112, which provides in relevant part as follows:

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, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Id. ¶ 1. Purolite first argues that Claim 1 does not comply with the “enablement” requirement of Section 112 because it recites an inoperable process. “A claimed invention having an inoperable or impossible claim limitation . . . lacks an enabling disclosure under 35 U.S.C. § 112.” *EMI Group N. Am., Inc. v. Cypress Semiconductor Corp.*, 268 F.3d 1342, 1348 (Fed. Cir. 2001) (citation omitted).

Purolite argues that the process in Claim 1 is inoperable and impossible because, under the Court’s constructions, an “anionic oxidant” cannot react as required in the first step of the claimed method. In the claims construction process, the Court adopted the parties’ agreed construction of the term “anionic oxidant” to mean “any anionic compound, such as potassium permanganate.” Purolite relies on the opinion of its expert, Dr. Stack, that a compound is technically neutral and does not carry a charge, and thus cannot react with another material. Purolite therefore argues that an “anionic oxidant,” as construed by the Court cannot participate in the required reaction.

Purolite also points to dependent Claim 13, which claims the method from Claim 1 with a permanganate as the anionic oxidant. The Court previously adopted the parties’ agreed construction of the term “permanganate” to mean “a salt containing the anion MnO_4^- , such as potassium permanganate.” Dr. Stack also opines that a salt does not carry a charge and thus cannot engage in the reaction required in Claim 1’s first step.

The Court concludes that the undisputed evidence demonstrates that Claim 1 is not inoperable as alleged by Purolite. Plaintiffs' expert, Dr. Clifford, has offered his opinion that the anionic oxidant, even though a compound or a salt, can react because the reaction may be done in a solution that dissociates the compound or salt into its charged constituent substances. Dr. Stack admitted in his deposition that compounds and salts may become charged (and thus able to react) after they are placed in a solution and undergo dissociation.²⁷ Claim 1 does not prohibit the first reaction from occurring in a solution (or prohibit the use of some other method to make the anionic oxidant able to react). The specification supports this construction of Claim 1 (an issue of law), as it repeatedly refers to the use of a solution for this reaction. *See* Patent at 2:44-47 (summary of invention) ("The step of reacting the material that exhibits anion exchange behavior with an anionic oxidant is preferably carried out by passing a solution of the anionic oxidant through the material."), 3:15-19 (passing a solution through the resin), 4:66-5:1 (passing a permanganate solution through the bed), 6:8-11 (resin immersed in solution of potassium permanganate), 7:5-8 (resin immersed in solution).

Purolite points to dependent Claim 2, which recites Claim 1's method with the first reaction "carried out by passing a solution of said anionic oxidant through said material." Purolite argues that the doctrine of claim differentiation requires that Claim

²⁷Dr. Stack also conceded that he had used the terms "compound" and "salt" imprecisely in articles to refer to substances that carry a net charge.

1 thus be construed not to require the use of a solution. The Court disagrees. Claim 2 does not merely refer to the use of a solution, but rather to the particular method of passing a solution through the material. Purolite has not responded to plaintiffs’ point—with which the Court agrees—that there could be other ways of using a solution to allow the reaction, including immersion as contemplated in multiple places in the specification. Thus, Purolite has not shown that Claim 1 must be construed to claim a reaction that does not require the use of a solution, and the Court declines to impose such a limitation that is not supported by the patent or any other evidence.

Because Dr. Stack has conceded that a compound or a salt may react if a solution is used, the process in Claim 1 would only be inoperable if the claim forbids the use of a solution for the first reaction. The Court does not construe Claim 1 in that manner. Accordingly, Purolite has not met its burden, as a matter of law, to show by clear and convincing evidence that Claim 1 is invalid under Section 112 as inoperable. Plaintiffs are awarded summary judgment on this invalidity defense, and Purolite’s summary judgment motion is denied as it relates to this defense.

4. WRITTEN DESCRIPTION (CLAIM 1)

Purolite next argues that Claim 1 is invalid under 35 U.S.C. § 112 because the patent does not comply with the statute’s requirement that “[t]he specification shall contain a written description of the invention.” The Federal Circuit recently described this requirement as follows:

An adequate written description reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date. The hallmark of written description is disclosure. The specification must describe an invention understandable to a skilled artisan and show that the inventor actually invented the invention claimed. The purpose of the written description requirement is to ensure that the scope of the right to exclude, as set forth in the claims, does not overreach the scope of the inventor's contribution to the field of art as described in the patent's specification.

Atlantic Research Marketing Sys., Inc. v. Troy, 659 F.3d 1345, 1353-54 (Fed. Cir. 2011) (internal quotations omitted). “To overcome the presumption of the validity of patents, the accused must show that the claims lack a written description by clear and convincing evidence.” *Hynix Semiconductor, Inc. v. Rambus Inc.*, 645 F.3d 1336, 1351 (Fed. Cir. 2011). “While compliance with the written description requirement is a question of fact, this issue is amenable to summary judgment in cases where no reasonable fact finder could return a verdict for the non-moving party.” *Atlantic Research*, 659 F.3d at 1353 (internal quotations omitted).

The Federal Circuit has adopted the standard for this requirement set out in the guidelines promulgated by the United States Patent and Trademark Office (PTO), found at 66 Fed. Reg. 1099 (2001). *See Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1072 & n. 19 (Fed. Cir. 2005). Those guidelines provide as follows:

To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and

formulas that fully set forth the claimed invention. Possession may be shown in a variety of ways including description of an actual reduction to practice, or by showing that the invention was “ready for patenting” such as by the disclosure of drawings or structural chemical formulas that show that the invention was complete, or by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention.

PTO Guidelines, 66 Fed. Reg. at 1104 (footnotes omitted).

The Court concludes as a matter of law that the patent’s specification satisfies this standard. The specification describes the invention in detail with respect to each limitation in Claim 1, and it contains numerous drawings, chemical formulas, and detailed descriptions of each step in the claimed method. Thus, the specification shows possession of the claimed invention. Moreover, each of the examples set forth in the guidelines is present here, as the specification describes actual reductions to practice, discloses drawings and formulas showing that the invention is complete and “ready for patenting,” and describes in detail many identifying characteristics of the invention.

In arguing that the written description requirement is not met here, Purolite notes that although the specification focuses on the use of certain materials (specific polymeric anionic exchange resins, either potassium permanganate or sodium hypochlorite, and ferrous sulfate), Claim 1 is actually broader, claiming a method using “a material that exhibits anion exchange behavior” (not merely the specific resins), “an anionic oxidant” (not merely permanganate or hypochlorite), and “a salt of a metal” (not merely ferrous sulfate). Thus, Purolite argues that the specification does not describe the full scope of

the claim, which covers the use of *any* such material and oxidant and salt of a metal. *See Cooper Cameron Corp. v. Kvaerner Oilfield Prods., Inc.*, 291 F.3d 1317, 1323 (Fed. Cir. 2002) (“a broad claim is invalid when the entirety of the specification clearly indicates that the invention is of a much narrower scope”) (citing *Gentry Gallery, Inc. v. Berklene Corp.*, 134 F.3d 1473, 1479-80 (Fed. Cir. 1998)).²⁸

The Court rejects this argument. The specification clearly encompasses a broader scope than the embodiments that use the specific resins, permanganate/hypochlorite, and ferrous sulfate. *See Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1365 (Fed. Cir. 2003) (“A specification may, within the meaning of 35 U.S.C. § 112 para. 1, contain a written description of a broadly claimed invention without describing all species that the claim encompasses.”) (quoting *Utter v. Hiraga*, 845 F.2d 993, 998 (Fed. Cir. 1988)). The specification does not state that the invention is limited to those particular materials, but rather describes the invention in the broader terms found in Claim 1. *See, e.g.*, Patent at 2:36-60. More specifically, the specification states that although certain resins are preferred, a wide variety of resins may be used, *see id.* at 2:61-3:2, 9:67-10:12 (listing several examples); that “any anionic oxidizing agent can be used in place of permanganate,” *see id.* at 10:13-16 (listing several examples); and that a solution of

²⁸Because Purolite has not preserved a defense under 35 U.S.C. § 112 ¶ 2, *see supra* Part V.B.2, the Court does not address Purolite’s argument that Claim 1 is invalid pursuant to that paragraph’s requirement that the specification claim the subject matter that the applicant “regards as his invention.”

ferrous salt is merely the preferred metal salt, *see id.* at 3:3. Thus, because the specification does not limit the scope of the claimed invention to the particular materials used in the embodiments described in the most detail, there is no violation of the written description requirement. *See Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1365 (Fed. Cir. 2003) (written description requirement was not violated because “the patent disclosure provides ample support for the breadth of the term [and] it does not unambiguously limit the meaning of the term to the narrower embodiment”) (quoting *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 993 (Fed. Cir. 1999)); *cf. Tronzo v. Biomet, Inc.*, 156 F.3d 1154, 1159 (Fed. Cir. 1998) (requirement was violated because statements in the specification made clear that the patent disclosed only cups of a certain shape and nothing broader, without any suggestion that the patent encompassed other shapes or species of cup).

Purolite relies on the opinion of its expert, Dr. Stack. In his report, however, Dr. Stack noted the specification’s language indicating that materials other than those used in the embodiments may be used. Moreover, Dr. Stack’s opinion that “the specification would not convey to a person of ordinary skill in the art that the inventors were in possession of the alleged invention encompassed by the full scope of claim 1” is not supported by any analysis of the specification and its broad language.²⁹ At most, Dr.

²⁹Dr. Stack’s analysis of specific language in the specification and discovery from Dr. SenGupta related and is relevant only to his opinion on compliance with the enablement requirement.

Stack states that the specification discloses two examples, but as the applicable caselaw makes clear, the specification need not describe in detail all possible examples. Thus, the Court concludes that Dr. Stack's conclusory statement does not provide clear and convincing evidence to rebut the presumption that the written description requirement has been satisfied.

Purolite also cites Dr. SenGupta's denials of the following three requests for admission:

The Patent-in-Suit describes the method of claim 1 using every "anionic oxidant" known as of January 21, 2004.

The Patent-in-Suit describes the method of claim 1 using every "solution of a salt of a metal" known as of January 21, 2004.

The Patent-in-Suit describes the method of claim 1 using every "material that exhibits anion exchange behavior" known as of January 21, 2004.

Purolite concedes that these denials do not have the conclusive effect given to admissions under Fed. R. Civ. P. 36, *see, e.g., Audiotext Communications Network, Inc. v. US Telecom, Inc.*, 1995 WL 625744, at *7 (D. Kan. Oct. 5, 1995); nevertheless, Purolite argues that the denials at least have evidentiary value and support its position that the patent does not satisfy the written description requirement. The Court, however, does not find Dr. SenGupta's bare denials, without further explanation, to be probative. The requests do not refer specifically to the written description requirement of 35 U.S.C. § 112, and Dr. SenGupta has not denied that the patent complies with the statute. Moreover, as previously stated, the fact that a patent does not describe every possible

example (listing every possible combination of the possible materials) does not indicate non-compliance with the statute. Thus, the denials do not provide clear and convincing evidence in support of Purolite’s position.

For these reasons, the Court concludes as a matter of law that Purolite has failed to meet its burden to provide clear and convincing evidence to overcome the presumption that Claim 1 of the patent satisfies Section 112’s written description requirement. Accordingly, the Court awards plaintiffs summary judgment on this invalidity defense asserted by Purolite, and it denies Purolite’s motion for summary judgment as it relates to this defense.

5. ENABLEMENT (CLAIM 1)

Purolite next asserts that Claim 1 and its dependent claims fail to satisfy the “enablement” requirement of 35 U.S.C. § 112. As noted above, Section 112 contains the following requirement:

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

Id. ¶ 1. “The enablement requirement is satisfied when one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation.” *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008) (internal quotation omitted).

Whether a claim satisfies the enablement requirement of Section 112 is a question of law based on underlying facts. *See id.*; *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, 617 F.3d 1296, 1305 (Fed. Cir. 2010) (enablement “is a question of law with underlying questions of fact regarding undue experimentation”); *AK Steel Corp. v. Sollac and Ugine*, 344 F.3d 1234, 1245 (Fed. Cir. 2003) (“whether a patent complies with the enablement requirement depends upon a factually intensive inquiry regarding the amount of experimentation required”); *National Recovery Technologies, Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1197 (Fed. Cir. 1999) (“Whether making and using the claimed invention would have required undue experimentation is a legal conclusion based upon underlying facts.”). Because a patent is presumed valid, the party asserting invalidity must show that the enablement requirement is not satisfied to a standard requiring clear and convincing evidence. *See Sitrick*, 516 F.3d at 999.

Purolite again notes that Claim 1, which is not limited to any particular “material that exhibits anion exchange behavior,” “anionic oxidant,” or “salt of a metal,” is broader than the specification’s two examples that use specific materials. Purolite thus argues that Claim 1 and the dependent claims are not enabled because the specification teaches only how to practice the invention with those particular combinations of materials, and does not explain which other combinations of materials may be used to produce a selective adsorbent capable of exchanging anions, as required by the claim. *See id.*

(“The full scope of the claimed invention must be enabled.”); *National Recovery*, 166 F.3d at 1196 (“The scope of the claims must be less than or equal to the scope of the enablement.”).

Plaintiffs argue that the specification’s two detailed examples are sufficient for enablement here, based on the general principle that “the enablement requirement is met if the description enables any mode of making and using the invention.” *See Johns Hopkins Univ. v. CellPro, Inc.*, 152 F.3d 1342, 1361 (Fed. Cir. 1998) (quoting *Engel Indus., Inc. v. Lockformer Co.*, 946 F.2d 1528, 1533 (Fed. Cir. 1991)). Plaintiffs also rely on cases in which the court did not require the specification at issue to have described all possible species covered by the claim. *See Atlas Powder Co. v. E.I. du Pont De Nemours & Co.*, 750 F.2d 1569, 1576 (Fed. Cir. 1984); *In re Application of Angstadt*, 537 F.2d 498, 502-03 (C.C.P.A. 1976).

The Court does not agree the specification’s inclusion of the two detailed examples entitles plaintiffs to summary judgment on this issue. As Purolite has pointed out, the scope of Claim 1 is much broader and covers various other materials under the claim’s broad categories. Thus, the two examples do not show how a practitioner could practice the full scope of Claim 1 by using other materials covered by the claim. Moreover, although the specification lists alternative materials, the specification does not describe how any such alternative materials could be combined to allow the invention (as fully claimed) to be made and used. In cases in which the specification

does not enable the full scope of a broad claim, the Federal Circuit has rejected similar arguments based on the “one mode” principle. *See Automotive Technologies Int’l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1285 (Fed. Cir. 2007); *Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371, 1379-80 (Fed. Cir. 2007).

The other cases cited by plaintiffs, *Angstadt* and *Atlas Powder*, also suggest that further inquiry is needed. In *Angstadt*, the court stated that requiring disclosure of a test with every species covered by the claim would require the disclosure of information concerning thousands of catalysts and would force inventors to carry out a prohibitive number of actual experiments, thereby discouraging patent applications in unpredictable areas. *See Angstadt*, 537 F.2d at 502-03. The court proceeded, however, to examine whether the evidence showed that one skilled in the art could make and use other material without undue experimentation. *See id.* at 503-04. In *Atlas Powder*, the defendant essentially made the same argument made by Purolite in this case:

Du Pont argues that the patent disclosure lists numerous salts, fuels, and emulsifiers that could form thousands of emulsions but there is no commensurate teaching as to which combination would work. The disclosure, according to Du Pont, is nothing more than “a list of candidate ingredients” from which one skilled in the art would have to select and experiment unduly to find an operable emulsion.

Atlas Powder, 750 F.2d at 1576. The court agreed with the district court’s conclusion that listing all operable emulsions would have been impossible and was unnecessary. *See id.* Such detail was unnecessary, however, because the district court had found that a particular scientific principle allowed those skilled in the art to know how to select the

particular ingredient substances. *See id.* The court noted, however, that “if the number of inoperative combinations becomes significant, and in effect forces one of ordinary skill in the art to experiment unduly in order to practice the claimed invention, the claims might indeed be invalid.” *See id.* at 1576-77; *see also Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1335-37 (Fed. Cir. 2003) (affirming the district court’s application of the “one mode” principle where the evidence showed that the claimed invention could be made and used “by experimentation falling short of undue”).

Similarly in the present case, although the specification need not have listed every operable combination of materials covered by Claim 1, such combinations must be able to be determined by one skilled in the art. As the Federal Circuit has stated:

That is not to say that the specification itself must necessarily describe how to make and use every possible variant of the claimed invention, for the artisan’s knowledge of the prior art and routine experimentation can often fill in gaps, interpolate between embodiments, and perhaps even extrapolate beyond the disclosed embodiments, depending upon the predictability of the art. But it does mean that, when a range is claimed, there must be reasonable enablement of the scope of the range.

AK Steel, 344 F.3d at 1244 (citations omitted).

Thus, the issue here becomes whether one skilled in the art could practice the full scope of Claim 1, using materials other than those disclosed in the specification’s detailed embodiments, without undue experimentation.

The determination of what constitutes undue experimentation in a given case requires the application of a standard of reasonableness, having due regard for the nature of the invention and the state of the art. The test is not merely quantitative, since a considerable amount of experimentation

is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed.

In re Wands, 858 F.2d 731, 737 (Fed. Cir. 1988) (citation and footnote omitted); *accord Elan Pharmaceuticals, Inc. v. Mayo Foundation for Med. Educ. and Research*, 346 F.3d 1051, 1055 (Fed. Cir. 2003) (quoting *Wands*). The following factors may be considered in determining whether a disclosure requires undue experimentation:

(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

ALZA Corp. v. Andrx Pharmaceuticals, LLC, 603 F.3d 935, 940 (Fed. Cir. 2010) (quoting *Wands*, 858 F.2d at 737).

The Court concludes that neither party is entitled to summary judgment on this defense on the present record before the Court. Purolite has presented evidence from its expert, Dr. Stack, who applied the factors set forth above and opined that undue experimentation would be required to practice the full scope of Claim 1 and its dependent claims. In particular, Dr. Stack cited the great number of possible combinations of materials, his opinion that the reason why some combinations would not work may not be apparent to one in the art, the lack of guidance and working examples in the specification, the patent's contention that the invention was pioneering, the unpredictable nature of the art, and the breadth of the claims. That evidence, viewed in

the light most favorable to Purolite, precludes summary judgment in favor of plaintiffs. Plaintiffs rely on the opinions of their own expert, Dr. Clifford, who disagrees with Dr. Stack's conclusions. Plaintiffs also cite to Dr. Stack's deposition, in which he testified that various reactions and processes involved in practicing the invention are routine or constitute basic chemistry or are within the knowledge of one of ordinary skill in the art; that certain relevant data may be found in reference books or extrapolated by the practitioner; and that certain relevant results could be predicted by one in the art. This evidence, viewed in the light most favorable to plaintiffs, precludes summary judgment in favor of Purolite on this issue.

Thus, the Court cannot rule on this issue of undue experimentation as a matter of law on the record presently before it. Accordingly, an issue of fact remains for trial, and both parties' summary judgment motions are denied as they relate to this defense of invalidity based on non-enablement.

6. ANTICIPATION BY PRIOR ART (CLAIM 15)

Purolite seeks summary judgment on its defense that Claim 15 of the patent is invalid as anticipated by prior art pursuant to 35 U.S.C. § 102. Claim 15 states as follows:

15. An adsorbent for the selective removal of ligands from fluids, said adsorbent [*sic*] comprising a polymeric anion exchange resin containing particles of an oxygen-containing compound of iron dispersed throughout the resin.

The Federal Circuit has described the anticipation defense as follows:

Anticipation under 35 U.S.C. § 102 means lack of novelty, and is a question of fact. To anticipate, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim. When a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art.

Brown v. 3M, 265 F.3d 1349, 1351 (Fed. Cir. 2001) (citations omitted).

Because of the statutory presumption of the validity of the patent, Purolite must prove anticipation by clear and convincing evidence. *See Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1367 (Fed. Cir. 2011). Moreover, if the particular prior art was considered by the PTO during examination of the patent application, the challenger bears an enhanced burden of overcoming the deference that is due to the PTO's decision. *See id.*³⁰

As a preliminary matter, Purolite argues that the phrase in the preamble to Claim 15 that describes the claimed adsorbent as one “for the selective removal of ligands from fluids” does not constitute a limitation on the claim for purposes of the anticipation analysis.

While it is true that preamble language is often treated as nonlimiting in nature, it is not unusual for this court to treat preamble language as limiting Preamble language that merely states the

³⁰If a prior art reference was not before the PTO, there would, of course, be no deference, *see Tokai*, 632 F.3d at 1367; the clear-and-convincing evidence standard still applies, however, although it may be easier to meet that standard with respect to a reference not before the PTO, *see Microsoft Corp. v. i4i Ltd. Partnership*, 131 S. Ct. 2238, 2251 (2011).

purpose or intended use of an invention is generally not treated as limiting the scope of the claim. However, we have stated that there is no “litmus test” for determining whether preamble language is limiting. To the contrary, we have stated the whether to treat a preamble as a claim limitation is determined on the facts of each case in light of the claim as a whole and the invention described in the patent.

Bicon, Inc. v. Straumann Co., 441 F.3d 945, 952 (Fed. Cir. 2006) (citations and internal quotations omitted). The Federal Circuit has explained at some length the relevant considerations for construing a preamble:

Whether to treat a preamble as a limitation is a determination resolved only on review of the entire patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.

In general a preamble limits the invention if it recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim. Conversely, a preamble is not limiting where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.

No litmus test defines when a preamble limits claim scope. Some guideposts, however, have emerged from various cases discussing the preamble’s effect on claim scope. For example, this court has held that Jepson claiming generally indicates intent to use the preamble to define the claimed invention, thereby limiting claim scope. Additionally, dependence on a particular disputed preamble phrase for antecedent basis may limit claim scope because it indicates a reliance on both the preamble and claim body to define the claimed invention. Likewise, when the preamble is essential to understand limitations or terms in the claim body, the preamble limits claim scope.

Further, when reciting additional structure or steps underscored as important by the specification, the preamble may operate as a claim limitation.

Moreover, clear reliance on the preamble during prosecution to

distinguish the claimed invention from the prior art transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention. Without such reliance, however, a preamble generally is not limiting when the claim body describes a structurally complete invention such that deletion of the preamble phrase does not affect the structure or steps of the claimed invention. Thus, preamble language merely extolling benefits or features of the claimed invention does not limit the claim scope without clear reliance on those benefits or features as patentably significant.

Moreover, preambles describing the use of an invention generally do not limit the claims because the patentability of apparatus or composition claims depends on the claimed structure, not on the use or purpose of that structure. Indeed, the inventor of a machine is entitled to the benefit of all the uses to which it can be put, no matter whether he had conceived the idea of the use or not. More specifically, this means that a patent grants the right to exclude others from making, using, selling, offering to sale, or importing the claimed apparatus or composition for any use of that apparatus or composition, whether or not the patentee envisioned such use. Again, statements of intended use or asserted benefits in the preamble may, in rare instances, limit apparatus claims, but only if the applicant clearly and unmistakably relied on those uses or benefits to distinguish prior art. Likewise, this principle does not mean that apparatus claims necessarily prevent a subsequent inventor from obtaining a patent on a new method of using the apparatus where that new method is useful and nonobvious.

Catalina Marketing Int'l, Inc. v. Coolsavings.com, Inc., 289 F.3d 801, 808-09 (Fed. Cir. 2002) (citations and internal quotations omitted). Whether the preamble is a limitation of the claim presents a question of law for the Court. *See Intirtool, Ltd. v. Texar Corp.*, 369 F.3d 1289, 1293-94 (Fed. Cir. 2004).

The Court concludes as a matter of law, based on this guidance from the Federal Circuit, that the disputed portion of the preamble in Claim 15 (“for the selective removal of ligands from fluids”) does not represent a limitation of that claim. On its face, the

preamble describes the use of the invention—it is used for the selective removal of ligands from fluids. Plaintiffs argue that the patent and its specification show that the invention is a ligand-selective adsorbent. In that regard, they point to the title of the patent (“Hybrid Anion Exchanger for Selective Removal of Contaminating Ligands from Fluids . . .”)³¹ and the patent’s first substantive sentence (“The invention relates to the manufacture and application of hybrid anion exchangers for selective removal of contaminants from ligands.”). Those references do include the words “selective removal” with respect to ligands; however, they modify “hybrid anion exchanger” by stating the exchanger’s use. Indeed, if the title has some relevance, as plaintiffs argue, it suggests only that the invention is the exchanger, the composition of which is described in the body of Claim 15. Similarly, the excerpts to the specification that plaintiffs cite refer to the invention’s use or purpose of ligand-selective removal. *See* Patent at 2:16-18, 2:36-37, 3:15-19, 3:28-32, 9:67-10:2. Thus, the patent does not indicate that the inventor considered a ligand-selective adsorbent or the disputed portion of the preamble to be part of the invention claimed in Claim 15. Plaintiffs have not argued or shown how the preamble is necessary to the claimed structure.

Moreover, the patent’s prosecution history confirms that the preamble was not added to overcome or to distinguish any prior art. Plaintiffs note that the PTO examiner

³¹Although Purolite points out that the title was changed by the PTO examiner, the application contained a similar title.

first rejected the similar preamble to Claim 1 on the basis that “selective” was indefinite (before ultimately acknowledging a particular definition and withdrawing the objection). Plaintiffs have not cited any authority, however, that would indicate that an examiner would not have lodged an indefiniteness objection unless the preamble was deemed a claim limitation. Nor have plaintiffs cited any authority supporting the argument that the Court should consider the examiner’s thoughts in construing a claim.³²

The other considerations cited by the Federal Circuit do not favor treatment of the preamble in Claim 15 as a limitation. The preamble is not essential to the structure described in the body of the claim, and the structure is complete without reference to the preamble. The body of the claim does not rely on the preamble as an antecedent to its terms, and the preamble is not essential to an understanding of the terms or limitations in the claim. The preamble does not recite an additional structure, and as noted above, the inventor did not rely on the preamble to distinguish prior art. Claim 15 is an apparatus or composition claim, and thus the patentability does not depend on the use of the invention. The Court concludes that this is not one of the “rare instances” in which a preamble to such a claim that states the invention’s use should be deemed a limitation, and the Court construes Claim 15 in that manner as a matter of law.

³²The Court also rejects plaintiffs’ argument based on Purolite’s request for a construction by the Court of the word “ligand”. The Court does not consider Purolite, by such request, to have admitted or to be estopped from disputing that the preamble should be deemed a claim limitation in Claim 15.

As another preliminary matter, the Court addresses the proper construction of the term “adsorbent”, which is found in various claims of the patent, including Claim 15. After the claim construction briefing and hearing, the Court construed “adsorbent” to mean “a substance that has the ability to condense or hold molecules of other substances on its surface.” With respect to a number of prior art references, plaintiffs argue that the inventions described therein do not meet Claim 15’s requirement of an “adsorbent” because they involve holding ions (in a process of ion exchange), which plaintiffs argue are distinct from the “molecules” required by the Court’s construction.

The Court declines to interpret “adsorbent” in the patent claims to exclude holding ions. This particular issue was not raised by the parties at the claim construction stage, and thus the Court did not consider the issue in originally construing “adsorbent”. In its claim construction order, the Court intended to construe “adsorbent” in accordance with its ordinary meaning in the art as reflected in a scientific dictionary. *See* Memorandum and Order of July 22, 2011, at 8 (Doc. # 344). The Court followed Purolite’s proposed construction, which had been taken from the dictionary’s definition of “adsorbent” as “[a] substance which has the ability to condense or hold molecules of other substances on its surface.” *See id.* The same dictionary defines “adsorption”, however, to mean “[a]dherence of the atoms, ions, or molecules of a gas or liquid to the surface of another substance, called the adsorbent.” That definition indicates that “adsorbent” and “adsorption” are related in scope and are not limited to some technical

definition of “molecules” that could exclude ions or particular kinds of atoms. Moreover, in its prior ruling, the Court stated that “this same definition was cited by the applicant in the application process for the Patent.” *See id.* That statement was not quite accurate, as the applicant had cited this dictionary’s definition of “adsorption,” while the Court adopted the dictionary’s definition of “adsorbent”. The fact that the applicant relied on a definition including “atoms, ions, and molecules,” however, supports the Court’s conclusion that the patent was not intended to exclude a substance that hold ions on the surface in referring to an “adsorbent”.

This revised construction is further supported by the fact that plaintiffs’ proposed construction of “adsorbent” would have included “an anion exchange resin” as an example. Indeed, at the claim construction hearing, plaintiffs’ counsel conceded that the starting material—the “material that exhibits anion exchange behavior”—may be an adsorbent. The Court also noted in its prior order that the starting “material that exhibits anion exchange behavior” may be an adsorbent. *See id.* at 11. Finally, plaintiffs’ expert concedes that practitioners in the art often include the process of ion exchange within the scope of the definition of adsorption.

For these reasons, the Court revises its prior construction, and it construes “adsorbent” in the patent’s claims as a matter of law to mean “a substance that has the ability to condense or hold atoms, ions, or molecules of other substances on its

surface.”³³

The Court then moves to the ten particular prior art references cited by Purolite and its expert, Dr. Stack, as invalidating Claim 15 as anticipated under 35 U.S.C. § 102. Five of the references are understood by the parties to relate to the same product, known as MIEX, manufactured by a company named Orica. The Court concludes that four of these five MIEX references show as a matter of law that Claim 15 is invalid as anticipated by prior art.

As an initial matter, plaintiffs do not dispute that these MIEX references were not placed before the PTO examiner. Accordingly, as recognized by the Supreme Court, Purolite may more easily satisfy the clear-and-convincing evidence standard with respect to these references. *See Microsoft Corp.*, 131 S. Ct. at 2251.

In evidence submitted by Purolite, Dr. Stack has shown how these references satisfy each of the limitations contained in Claim 15. In response, plaintiffs and their expert, Dr. Clifford, make two primary arguments. First, they argue that these references do not describe an adsorbent that is selective for ligands. As the Court ruled above, however, Claim 15 does not include as a limitation the preamble’s reference to the selective removal of ligands. Thus, that argument fails as a matter of law. Second, they argue that the references do not describe an “adsorbent” because they instead describe

³³Because of this construction, the Court need not construe the term “molecules” or determine whether that term excludes ions, as suggested by plaintiffs’ expert, or whether it does include ions under its ordinary definition.

ion exchangers. Again, however, the Court has rejected such an interpretation of “adsorbent” as a matter of law. Plaintiffs have not offered any other reasons why these references do not meet all of the limitations of Claim 15 as presently construed by the Court. In particular, plaintiffs do not dispute that these references, which are all described as containing an iron compound “throughout” the resin, satisfy the “dispersed throughout” limitation of claim 15.³⁴

Therefore, the Court concludes as a matter of law that Purolite has shown, by clear and convincing evidence, that Claim 15 is invalid under 35 U.S.C. § 102 as anticipated by four of the MIEX references—the Nguyen patent, the Ballard patent, the Ballard patent application, and the MIEX product itself.³⁵ Accordingly, Purolite is awarded summary judgment on this invalidity defense, and thus is also awarded

³⁴With respect to the fifth MIEX reference, the Singer and Bilyk article, the Court concludes that a question of fact remains whether the article, which refers only to iron oxide “integrated into the resin structure,” satisfies the “dispersed throughout” limitation; thus, that reference does not support a finding of invalidity as a matter of law.

³⁵The Court rejects plaintiffs’ argument that the MIEX product was not “in public use or on sale in this country” early enough for consideration as prior art under 35 U.S.C. § 102(b). Orica’s representative testified that the product was in public use before the relevant date, and plaintiffs’ citation to evidence that the first *sale* was later does not controvert that testimony. Moreover, the representative was not required to have personal knowledge of that fact because the deposition was conducted pursuant to Fed. R. Civ. P. 30(b)(6). *See, e.g., Payless Shoesource Worldwide, Inc. v. Target Corp.*, 2008 WL 973118, at *9 (D. Kan. Apr. 8, 2008) (Rule 30(b)(6) deponent’s discharge of his duty does not require personal knowledge).

summary judgment on plaintiffs' claim for infringement of Claim 15 of the patent.³⁶

7. OBVIOUSNESS (CLAIM 15)

Although the Court has ruled Claim 15 to be invalid, the Court nonetheless addresses Purolite's alternative defense of obviousness. In its motion for summary judgment, Purolite has not made any argument that Claim 15 is invalid as obvious pursuant to 35 U.S.C. § 103. In their own motion, plaintiffs note that Purolite's expert has not offered an opinion concerning Claim 15's obviousness, and they argue that Purolite cannot meet its burden to show by clear and convincing evidence that Claim 15 is obvious under Section 103. In response to that argument, Purolite cites the Federal Circuit's conclusion in *Wyers v. Master Lock Co.*, 616 F.3d 1231 (Fed. Cir. 2010), that in appropriate cases (where the technology is easily understandable, for instance), expert testimony may not be necessary on the issue of obviousness. *See id.* at 1239-40. Purolite further notes that both sides' experts have offered opinions on prior art with respect to Claim 15 as it bears on the issue of anticipation. Purolite's sole argument, however, is that the obviousness inquiry is not complex here, and that plaintiffs "fail to show how any difference between claim 15 and any prior art reference of record would require recourse to anything beyond 'logic, judgment, and common sense.'"

The Court concludes that Purolite has failed to provide evidence or even show by

³⁶Remaining issues of fact, particularly with respect to the "dispersed throughout" limitation, preclude reliance on the other five prior art references cited by Purolite for purposes of summary judgment on this defense.

argument that Claim 15 is invalid as obvious in light of the prior art. The burden does not fall to plaintiffs to show that particular evidence is required. Purolite has not cited any expert opinion that Claim 15 is obvious, and in fact, Purolite's counsel represented at Dr. Stack's deposition that Purolite would not rely on any expert testimony for its assertion of obviousness. Purolite has not shown or even tried to explain how logic or common sense makes Claim 15 obvious in light of any particular prior art. Accordingly, Purolite has not met its burden in opposing summary judgment, including the heightened burden of proof on this issue, and summary judgment in plaintiffs' favor on this issue is therefore appropriate.

8. SUMMARY OF INVALIDITY ISSUES

With respect to Claim 1 of the patent, only Purolite's defense based on the enablement requirement remains for trial, and plaintiffs are awarded summary judgment on Purolite's other theories of invalidity. The Court rules that Claim 15 is invalid as anticipated by prior art as a matter of law, and Purolite is awarded summary judgment on that defense and thus on plaintiffs' claim for infringement of Claim 15.

IT IS THEREFORE ORDERED BY THE COURT THAT plaintiffs' motion to exclude expert testimony by Richard Troxel (Doc. # 426) is **granted in part and denied in part**; the motion is granted with respect to opinions concerning Layne's claim for royalties and Purolite's claim for unpaid invoices, but is denied as moot with respect to

damages on Purolite's other counterclaims.

IT IS FURTHER ORDERED BY THE COURT THAT plaintiffs' motion to exclude certain expert sur-rebuttal reports (Doc # 428) is **denied**.

IT IS FURTHER ORDERED BY THE COURT THAT defendant Purolite's motion to exclude expert testimony by Dennis Clifford (Doc. # 430) is **denied**.

IT IS FURTHER ORDERED BY THE COURT THAT plaintiffs' motion for leave to file a declaration by Dr. Clifford (Doc. # 542) is **granted**, and the proposed declaration is deemed filed.

IT IS FURTHER ORDERED BY THE COURT THAT plaintiff Layne's motion for summary judgment on certain of Purolite's counterclaims (Doc. # 404) is **granted**, and Layne is awarded summary judgment on Purolite's counterclaims at issue in the motion, namely all claims for breach of contract other than Purolite's claim of a breach based on the failure to pay for product, and Purolite's claims for unfair competition, restraint of trade, and breach of the implied covenant of good faith and fair dealing.

IT IS FURTHER ORDERED BY THE COURT THAT Layne's motion for partial

summary judgment on its claims for breach of contract (Doc. # 406) is **granted in part and denied in part**. As it relates to Layne’s claim for damages for unpaid royalties, the motion is granted with respect to Purolite’s liability, but denied with respect to the amount of damages. As it relates to Layne’s claim for a permanent injunction for breach of Section 11.2 of the Agreement, the motion is granted, and Purolite is hereby permanently enjoined from making, selling, or using the product FerrIX A33E or any substantially similar product that uses “Intellectual Property” (as defined in the Agreement) resulting from Purolite’s activities under the Agreement.

IT IS FURTHER ORDERED BY THE COURT THAT plaintiffs’ motion for summary judgment on its claims of patent infringement (Doc. # 408) is **granted in part and denied in part**. The motion is granted with respect to the following, on which plaintiffs are awarded summary judgment: Purolite’s theories that Claim 1 of the patent is not infringed based on the “by the action of the oxidant” and “salt of said metal” limitations; and Purolite’s invalidity defenses based on an inoperable process under 35 U.S.C. § 112 (Claim 1), the lack of a written description under 35 U.S.C. § 112 (Claim 1), and obviousness under 35 U.S.C. § 103 (Claim 15). The motion is denied in all other respects.

IT IS FURTHER ORDERED BY THE COURT THAT Purolite’s motion for

summary judgment on certain of plaintiffs' claims (Doc. # 410) is **granted in part and denied in part**. The motion is granted with respect to the following, on which Purolite is awarded summary judgment: Layne's claim for breach of Section 10.1 of the Agreement, to the extent that such breach is based on an underlying breach of a separate non-disclosure agreement between SolmeteX and Purolite; with respect to patent infringement, plaintiffs' marking estoppel theory and any claims by plaintiff based on indirect infringement or the doctrine of equivalents; and with respect to patent invalidity, plaintiffs' license estoppel theory and Purolite's defense that Claim 15 of the patent is anticipated by prior art pursuant to 35 U.S.C. § 102—and thus also plaintiffs' claim for infringement of Claim 15. The motion is denied in all other respects.

IT IS SO ORDERED.

Dated this 23rd day of December, 2011, in Kansas City, Kansas.

s/ John W. Lungstrum
John W. Lungstrum
United States District Judge