

EXHIBIT 2022

Enviro Tech v. Clean Chemistry

Clean Chemistry's Opening Claim

Construction Brief

(Docket No. 34)

UNITED STATES DISTRICT COURT

WESTERN DISTRICT OF TEXAS

AUSTIN DIVISION

**ENVIROTECH CHEMICAL
SERVICES, INC.**

Plaintiff,

v.

CLEAN CHEMISTRY, INC.

Defendant.

Case No. 1:24-cv-01313-ADA

Jury Trial Demanded

DEFENDANT CLEAN CHEMISTRY, INC.'S
OPENING CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTION

From the outset of this matter, Plaintiff Enviro Tech Chemical Services, Inc. (“Plaintiff” or “Enviro Tech”) has done all it can to rely on ambiguity in this dispute, to the benefit of Plaintiff and the detriment of Defendant Clean Chemistry, Inc. (“Defendant” or “Clean Chemistry”). Although it purportedly asserts infringement for each and every claim of the four asserted patents—U.S. Patents 8,546,449 (the “449 patent”); 9,363,997 (the “997 patent”); 9,730,443 (the “443 patent”); and 9,737,072 (the “072 patent”) (collectively, the “Asserted Patents” and found at Exhibits 1, 2, 3 and 4 respectively)—it has failed to adequately allege such infringement in either its Amended Complaint (Rec. Doc. 4) or its Preliminary Infringement Contentions. In fact, Plaintiff’s Preliminary Infringement Contentions repeatedly concede that they cannot identify alleged infringement by Defendant with respect to numerous of the purportedly asserted claims. Yet, despite the admittedly unfounded nature of such assertions, Plaintiff maintains that all 43 claims in the Asserted Patents are in dispute in this case. In various ways, this is stated in Plaintiff’s Preliminary Infringement Contentions where it is stated, for example, “...publicly available information lacks certain critical information relevant to infringement under some of the claims of the patents-in-suit and Plaintiff has not had the benefit of discovery.” Exhibit 5, Plaintiff’s Preliminary Infringement Contentions, p. 2.

Having asserted every claim without any indication of the evidentiary basis for such an allegation, Plaintiff has forced Clean Chemistry to contend with unfounded allegations and to engage in construction of terms in claims that a reasonable, good faith Plaintiff would have never asserted and, at this stage of the case, would have been dropped from the case. Yet, Plaintiff has not done so, requiring the Court and Clean Chemistry to engage in claim construction disputes that should not be at issue. Although it asserts 43 claims across four patents, Plaintiff contends that there is not even a single undefined term that requires a particular construction beyond its “plain

and ordinary meaning.” While it has provided some explanations through a declaration of their expert witness, Plaintiff has not specified what it believes the “plain and ordinary meanings” are for each of the disputed terms. Plaintiff apparently seeks to maximize its ability to alter the precise meaning of each term as it believes will best suit it as this case progresses. Such an approach contradicts the purpose of claim construction, which is “to ‘determin[e] the meaning and scope of the patent claims asserted to be infringed.’”*O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008) (quoting *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996)).

Plaintiff’s overreliance on “plain and ordinary meaning,” particularly where Plaintiff itself refuses to explain what that means for the involved disputed term, is improper and should be rejected. Moreover, the Asserted Patents’ numerous, allegedly asserted, claims contain several ambiguous terms that render their associated claims hopelessly indefinite and invalid under 35 U.S.C. § 112. Defendant respectfully requests the Court adopt its proposals for construing the disputed claim terms identified below.

II. PATENTS IN SUIT

The Asserted Patents are the ‘449 Patent, the ‘997 Patent, the ‘443 Patent, and the ‘072 Patent referenced above. Although absent from the Amended Complaint, Plaintiff’s Preliminary Infringement Contentions nominally appear to assert all claims of each asserted patent as allegedly being infringed, i.e., Claims 1-23 of ‘449 patent; Claims 1-14 of ‘997 patent; Claims 1-3 of ‘443 patent; and Claims 1-3 of ‘072 patent, for a total of 43 claims. Ex. 5, Plaintiff’s Prel. Infr. Contentions, p. 4. The Asserted Patents are all closely related, as three of the four Asserted Patents arise from divisional applications based upon original application no. 13/065,553 that gave rise to the earliest-to-grant Asserted Patent (the ‘449 Patent), all claim the priority of that original application’s filing date, March 24, 2011, and all share the same Specification. It should be noted

that a child continuation-in-part patent, U.S. Patent 10,912,321 is the subject of a pending appeal filed by Plaintiff before the U.S. Court of Appeals for the Federal Circuit (Appeal No. 24-2160), after having been found invalid for indefiniteness (in part due to indefiniteness of the claim term “about”) in a separate lower court Judgment entered June 25, 2024 by the Eastern District of Arkansas, Case No.4:21-cv-00601-LPR. Exhibit 6, Judgement, Case No.4:21-cv-00601-LPR (E.D. Ark.); Exhibit 7, Notice of Appeal, Case No.4:21-cv-00601-LPR (E.D. Ark.). The invalidated continuation-in-part patent now on appeal is also the subject of three pending, allegedly broadening, reissue application nos. 18/098,525, 19/239,762 and 19/239,865, at least one of which (18/098,525) has been suspended by the USPTO pending the outcome of the appeal.¹

III. BACKGROUND

Plaintiff and Defendant are both engaged, either directly or through distributors, in the business of microbial control products and related services, including products that are peracetic acid (PAA)-containing solutions. Both parties have their own respective patent portfolios. On Mar. 24, 2011, Plaintiff filed its first patent application giving rise to one of the Asserted Patents, the ‘449 Patent, granted on Oct. 1, 2013. The other Asserted Patents subsequently granted from related divisional applications, with the last one being granted Aug. 22, 2017. Four years later, on Jul. 2, 2021, Plaintiff initiated a patent infringement lawsuit against a third party, asserting a continuation-

¹ It should be noted that a child continuation-in-part patent, U.S. Patent 10,912,321 is the subject of a pending appeal filed by Plaintiff before the U.S. Court of Appeals for the Federal Circuit (Appeal No. 24-2160), after having been found invalid for indefiniteness (in part due to indefiniteness of the claim term “about”) in a separate lower court Judgment entered June 25, 2024 by the Eastern District of Arkansas, Case No.4:21-cv-00601-LPR. Ex. 6, Judgement, Case No.4:21-cv-00601-LPR (E.D. Ark.); Ex. 7, Notice of Appeal, Case No.4:21-cv-00601-LPR (E.D. Ark.). The invalidated continuation-in-part patent now on appeal is also the subject of three pending, allegedly broadening, reissue application nos. 18/098,525, 19/239,762 and 19/239,865, at least one of which (18/098,525) has been suspended by the USPTO pending the outcome of the appeal. Defendant requests that the Court take judicial notice of all the official USPTO reissue applications, in addition to all of the Asserted Patents and the file wrappers for application from which they were granted, and any intervening application(s) in their chain of priority claims.

in-part patent (U.S. Patent 10,912,321) related to the Asserted Patents and part of the Asserted Patents' patent family all of which originated from the first application filed Mar. 24, 2011 from which the '449 Patent in this case issued. While that lawsuit was pending and before its subsequent termination, on about Dec. 23, 2021, Arxada AG, a Switzerland-based chemical company and affiliate of Plaintiff's real party in interest Arxada Holdings NA Inc., publicly announced that it was acquiring Plaintiff. Exhibit 8, Arxada Press Release dated Dec. 23, 2021. Almost 3 years later and following the June 25, 2024 entry of the above-mentioned judgment invalidating for indefiniteness the '321 patent, Plaintiff filed the present case on Oct. 29, 2024, later serving the Complaint on or about Jan. 27, 2025. In this case Plaintiff asserts for the first time the Asserted Patents that share lineage with the '321 patent. Rather than Answering the Complaint, Defendant filed its pending Motion to Dismiss for Failure to State a Claim in this case on Feb. 19, 2025.

IV. LEVEL OF ORDINARY SKILL IN THE ART

In this case, the level of skill of a person of ordinary skill in the art at the time of the invention ("POSA") would be commensurate with having at least a bachelor's degree in chemistry, chemical engineering, or a related discipline, plus a couple of years of practical experience in chemical syntheses, or equivalent knowledge and work experience. Exhibit 9, Declaration of Dr. Alexander M. Klibanov, ¶16.

V. RELEVANT LEGAL STANDARDS

"A determination that a claim term 'needs no construction' or has the 'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning or when reliance on a term's 'ordinary' meaning does not resolve the parties' dispute." *O2 Micro*, 521 F.3d at 1360. Where the ordinary meaning of a term does not resolve the dispute, "claim construction requires the court to determine what claim scope is appropriate in the context of the patents in suit." *Id.* at 1361-62.

“[I]ndefiniteness is a question of law and in effect part of claim construction.” *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012). Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. A claim, when viewed in light of the intrinsic evidence, “must inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). Moreover, “a patent must be precise enough to afford clear notice of what is claimed, thereby apprising the public of what is still open to them.” *Id.* at 909. If it does not, the claim fails under § 112, ¶ 2 and is therefore invalid as indefinite. *Id.* at 901. Indeed, to uphold claims that do not clearly define the scope of the invention would thwart the ultimate purpose of the patent laws: to “promote the Progress of Science and useful Arts.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 730 (2002) (quoting U.S. Const. art. I, § 8, cl. 8).

When a term of degree is used in a claim, “the court must determine whether the patent provides some standard for measuring that degree.” *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015) (quotation marks omitted). Likewise, when a subjective term is used in a claim, “a court must determine whether the patent’s specification supplies some standard for measuring the scope of the [term].” *Ernie Ball, Inc. v. Earvana, LLC*, 502 F. App’x 971, 980 (Fed. Cir. 2013) (citations omitted). The standard “must provide objective boundaries for those of skill in the art.” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014).

VI. AGREED TERMS FROM THE ASSERTED PATENTS

The following tables show terms in the Asserted Patents originally proposed for construction that are now agreed by the parties in accordance with the Court’s Scheduling Order.

Term in the ‘449 Patent	Agreed Construction
A method of generating non-equilibrium solution of peracetic acid, comprising	This claim preamble is non-limiting for the claim
peracetic acid	peroxyacetic acid or peracetic acid, and/or the conjugate base of peracetic acid (the peracetate ion)
%	weight percent, except when referring to percent converted
point-of-use	The location where the peracetic acid enters the receiving water (where the receiving water is defined as the water being treated)
triacetin	 The chemical compound having the structural formula depicted above
the percent of triacetin that is converted into peracetic acid is about 40.9% to about 85.7%	the percentage of triacetin that is not remaining, relative to the total amount that was present at the start of the reaction—i.e., $\frac{(\text{initial amount of triacetin} - \text{remaining amount of triacetin})}{\text{initial amount of triacetin}} \times 100\%$ —and is about 40.9% to about 85.7% ²

Term in the ‘997 Patent	Agreed Construction
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² As part of attempting to narrow the number of claim construction disputes presented for judicial resolution, on August 2, 2025, Plaintiffs’ counsel agreed to this construction: “Yes, Envirotech agrees with this change. ET also agrees that the number of terms Clean Chemistry seeks to brief for construction is 10.” (Ex. 23.) Moments before the deadline for filing this brief (at 3:45 PM CT on August 4, 2025), however, Plaintiff’s counsel sent another email apparently withdrawing Plaintiff’s previous agreed upon construction for this term. (See Ex. 24.) Clean Chemistry believes the Court should adopt the parties’ previously agreed upon construction for this term. At a minimum, to the extent that the Court treats this claim term as being in dispute, Clean Chemistry requests authorization to have 11 claim terms construed in this case and shall respond to Plaintiff’s claim construction positions in its Reply brief and at the hearing, should such a response be needed.

A method of generating non-equilibrium solution of peracetic acid, comprising	Same as ‘449 Patent; see VI.A. above.
peracetic acid	Same as ‘449 Patent; see VI.A. above.
%	Same as ‘449 Patent; see VI.A. above.
triacetin	Same as ‘449 Patent; see VI.A. above.
the percent of triacetin that is converted into peracetic acid is about 40.9% to about 85.7%	Same as ‘449 Patent; see VI.A. above

Term in the ‘443 Patent	Agreed Construction
peracetic acid	Same as ‘449 Patent; see VI.A. above
%	Same as ‘449 Patent; see VI.A. above
triacetin	Same as ‘449 Patent; see VI.A. above

Term in the ‘072 Patent	Agreed Construction
peracetic acid	Same as ‘449 Patent; see VI.A. above
%	Same as ‘449 Patent; see VI.A. above
triacetin	Same as ‘449 Patent; see VI.A. above

VII. DISPUTED TERMS FROM THE ASSERTED PATENTS

As the Supreme Court explained in *Festo*, a patent claim “is a property right; and like any property right, its boundaries should be clear. This clarity is essential to promote progress, because it enables efficient investment in innovation. A patent holder should know what he owns, and the public should know what he does not.” 535 U.S. at 730. For the reasons that follow, the below-identified claim terms found in Plaintiff’s Asserted Patents “fall[] within ‘the innovation-discouraging “zone of uncertainty” against which the Supreme Court has warned,’” *Interval Licensing*, 766 F.3d at 1374 (internal citations omitted), and should be found indefinite or at a minimum should be construed in accordance with Defendant Clean Chemistry’s proffered construction.

A. U.S. 8,546,449

1. Arrangement; order of steps

Clean Chemistry Proposed Construction	Enviro Tech Proposed Construction
Plain and ordinary meaning: steps a to e must be performed <i>sequentially in the same order in which they are recited</i> in the claim	Plain and ordinary meaning: the steps can be performed in <i>any</i> order

The process steps appear in Claim 1 of the ‘449 Patent and affect the scope and validity of Claims 1-23. The parties have divergent constructions for this claim, so this claim needs to be construed by the Court. Enviro Tech’s position is that the steps listed in Claim 1 can be performed in any order. Clean Chemistry’s position is that the plain language of Claim 1 requires the steps to be performed in the order listed, and that Enviro Tech’s interpretation ignores the plain meaning of the language in the claim.

The Federal Circuit has outlined a test for assessing whether a method claim’s steps must be as sequentially listed:

Interactive Gift [, Inc. v. Compuserve Inc.], 256 F.3d 1323 (Fed. Cir. 2001)] recites a two-part test for determining if the steps of a method claim that do[sic] not otherwise recite an order, must nonetheless be performed in the order in which they are written. *Id.* First, we look to the claim language to determine if, as a matter of logic or grammar, they must be performed in the order written. For example, in *Loral Fairchild Corp. v. Sony Electronics Corp.*, 181 F.3d 1313, 1321 (Fed. Cir. 1999), we held that the claim language itself indicated that the steps had to be performed in their written order because the second step required the alignment of a second structure with a first structure formed by the prior step. If not, we next look to the rest of the specification to determine whether *it* “directly or implicitly requires such a narrow construction.” If not, the sequence in which such steps are written is not a requirement.

Altiris, Inc. v. Symantec Corp., 318 F.3d 1363, 1369-70 (Fed. Cir. 2023) (citing *Interactive Gift*, 256 F.3d at 1342-43 and *Mantech Envtl. Corp. v. Hudson Envtl. Servs., Inc.*, 152 F.3d 1368, 1375-76 (Fed. Cir. 1998) (**holding that the steps of a method claim had to be performed in their written order because each subsequent step referenced something logically indicating the**

prior step had been performed) (emphasis added), then quoting *Interactive Gift*, 256 F.3d at 1343).

The *Mantech* case cited above is actually extremely similar to the case at hand, where the grammar of the method claims involving acetic acid dictated limiting the claim to the listed sequence. *Mantech*, 152 F.3d at 175-76. In the case at hand, using the above-referenced two-part test, the plain language of Claim 1 as a matter of logic and grammar dictates the listed sequence. In that instance, the two-part test ends. But even assuming the second part of the test must be conducted, the Specification also supports Clean Chemistry's interpretation requiring the listed sequence. Claim 1 is reproduced below, with certain terms indicated in bold underline.

Claim 1:
A method of generating non-equilibrium solution of peracetic acid, comprising: a. providing <u>water</u>; b. introducing <u>a</u> hydrogen peroxide-triacetin solution to <u>the</u> water; c. mixing <u>the</u> hydrogen peroxide-triacetin solution and <u>the</u> water to form <u>a</u> mixture; d. adding an aqueous source of an alkali metal or earth alkali metal hydroxide to <u>the</u> mixture; and e. forming a reaction medium comprising a non-equilibrium solution of peracetic acid.

Step b of Claim 1 requires introducing ... to *the* water, which requires that water is already present. Changing the order of steps a and b does not work: one cannot add a hydrogen peroxide-triacetin solution to water, if water is not already present. Moreover, inherently one must first form or source the hydrogen peroxide-triacetin solution as such, in order to *introduce* said solution to the water, as required in step b. Step c then requires mixing the two components recited in step b, water and a hydrogen peroxide-triacetin solution, to form a mixture. Use of the definite article "the" to modify both water and the hydrogen peroxide-triacetin solution in step c indicates that both are already present (previously recited). Further, step c forms *a* mixture, and step d requires

adding something to *the* mixture. Changing the order of steps, e. g., such that step c is performed earlier is not possible – without both the water and the hydrogen peroxide-triacetin solution present, the specified mixture cannot be formed. And changing the order of steps to have step d performed earlier is also not possible – until step c is completed, there is no mixture to which the aqueous source of an alkali metal or earth alkali metal hydroxide can be added. Dependent Claim 8 of each of the ‘449 and ‘997 Patents also seeks to claim apparently an alternative, that step d be carried out concurrently with step b, in clear violation of the requirements of pre-AIA 35 U.S.C. § 112, fourth paragraph, which requires that a dependent claim specify a “further limitation” of the subject matter claimed, and “be construed to incorporate by reference all the limitations of the claim to which it refers.” For this additional reason, Claim 8 in each patent is invalid.³

Enviro Tech has not explained how its interpretation that the steps can be performed in any order is derived from a reading of the claim. In Enviro Tech’s expert Declaration received as part of its extrinsic evidence, Enviro Tech’s expert, Gregory Whiteker, stated that “A skilled artisan would recognize that the reaction is likely initiated by the high pH created by the sodium hydroxide. As such, the order of addition is likely irrelevant to the reaction outcome.” Exhibit 10, Declaration Gregory T. Whiteker, Ph.D., Decl., p. 2, ¶10, second row of table.

The Specification contradicts both Enviro Tech’s position and its expert, stating at column 24, lines 31-34:

The data in Tables XV and XVI indicate that far higher amounts of PAA (peracetic acid) are possible if the 50% sodium hydroxide solution is the last component of the mixture to be introduced.

³ The simultaneous addition of sodium hydroxide is an *alternative embodiment* from having sodium hydroxide added last. See Ex. 1, ‘449 Patent, col. 17, lines 10-11. Claim 8 may have sought to claim the alternative embodiment, but it is incongruous with the embodiment claimed in parent Claim 1.

(Emphasis added.) Ex. 1, ‘449 Patent, col. 24, lines 31-34. Clearly, the order of addition affected the process, and Enviro Tech’s Specification teaches that adding the aqueous source of an alkali metal or earth alkali metal hydroxide last yielded the best results. Remarkably, even the first-page Abstracts of ***all*** the Asserted Patents say as much, as the second sentence in each reads in pertinent part:

*These methods comprise introducing [“triacetin and aqueous hydrogen peroxide” or “hydrogen peroxide-acetyl precursor solution”] to water, mixing, and **then** adding an aqueous source of an alkali metal or earth alkali metal hydroxide.*

(Emphasis added.) See, e.g., Ex. 1, ‘449 Patent, Abstract, p. 1. Given the clear support for Defendant Clean Chemistry’s construction from the plain language of the claims, the Specification’s teachings and the rest of the intrinsic record, Defendant’s proposed construction that the method claims are limited to the specified sequence of steps should prevail.

2. “[a] non-equilibrium solution [of peracetic acid]”

Clean Chemistry Proposed Construction	Enviro Tech Proposed Construction
Indefinite; otherwise plain and ordinary meaning, but includes irreversibility	Plain and ordinary meaning

This phrase appears in Claims 1 and 17 of U.S. 8,546,449 and affects the scope and validity of Claims 1-23. There is no stated definition of the phrase “non-equilibrium solution,” “non-equilibrium,” or “solution” in the specification of any of the Asserted Patents. The claims in the ‘449 Patent are directed to making a “non-equilibrium solution of peracetic acid.” The file history of the ‘449 Patent reveals nothing of substance on the meaning of the phrase. Enviro Tech has indicated that “a non-equilibrium solution of peracetic acid” has its plain and ordinary meaning, without providing any indication of its definition of the “plain and ordinary meaning.”

Enviro Tech’s expert Declaration states that “[a] skilled artisan would recognize that a “nonequilibrium solution of peracetic acid” is one which has not yet reached equilibrium. That is,

the rates of forward and reverse reactions are not yet equal.” Ex. 10, Whiteker Decl., p. 2, ¶10, third row of table. In other words, Enviro Tech’s expert has opined that the reaction is *reversible*, and could at some later point reach equilibrium. But there is no recognition in his declaration that there are multiple possible reactions (primary and side reactions of reaction intermediates) taking place in an aqueous system such as that specified in the claims, and the key product-forming reaction between triacetin and hydrogen peroxide is *irreversible* (i.e., there is no reverse reaction to re-form the starting reactants from the reaction product) such that they never can reach an “equilibrium.” Ex. 9, Klibanov Decl., ¶35.

Because the undertaken reaction is an irreversible reaction with respect to the primary starting reactants of triacetin and hydrogen peroxide, ultimately forming glycerol and peracetic acid, the term “non-equilibrium” is non-sensical in this context, because the reaction of triacetin with hydrogen peroxide to form peracetic acid never can be an equilibrium reaction.

Moreover, this phrase uses the term “solution,” which presumably refers to a *homogeneous* mixture as commonly understood by POSA when referencing a “solution.” However, nothing in the Specification illuminates whether or how homogeneity is to be determined, or when a mixture that might begin as a heterogeneous mixture transforms into a homogeneous mixture (i.e., a solution), or how homogeneity should be determined empirically. Without such guidance from the Specification, POSA is left completely in the dark about when a mixture becomes sufficiently homogeneous to constitute the claimed “solution,” making the claim hopelessly indefinite. POSA would understand that there are many different ways to assess homogeneity of a mixture, and different levels of characterizations that could lead a POSA to conclude a mixture remains a mixture or has transformed into a “solution.” Ex. 9, Klibanov Decl., ¶¶38-39. Without such definitional guidance from the intrinsic record, POSA cannot ascertain with any reasonable

certainty when a mixture of the indicated materials becomes a homogeneous mixture/solution within the scope of the claim, and when it does not. Thus, the phrase and associated claims are indefinite.

3. “About”

Clean Chemistry Proposed Construction	Enviro Tech Proposed Construction
Indefinite	Plain and ordinary meaning

The recited term “about” is used within various dependent claims in the Asserted Patents impacting their scope and validity as an indefinite term of degree with various differently recited numerical values associated with mole ratios, concentrations (%), pH, and time, as follows:

Claim limitations reciting “about [a numerical value]”	Patent and claim(s)
a mole ratio of hydrogen peroxide to triacetin of about 2.98:1 to about 12.84:1 said mole ratio of said hydrogen peroxide to said triacetin is about 3.8:1	8,546,449, Claims 3, 20; 9,737,072, Claims 2-3
the sodium hydroxide is about 1.82% to about 7.28%	8,546,449, Claims 7, 22; 9,363,997, Claim 7
the mole ratio of the sodium hydroxide to the hydrogen peroxide to the triacetin is about 4.2:3.8:1 ; the mole ratio of the sodium hydroxide to the hydrogen peroxide to the triacetin is about 4.2:18:1 .	8,546,449, Claims 13, 23; 9,363,997, Claim 12
a pH of about 11.2 to about 13.37	9,730,443, Claim 2
said peracetic acid is about 1% to about 7.1%	9,730,443, Claim 3
said aqueous hydrogen peroxide is about 23% to about 40% ; said aqueous hydrogen peroxide is about 27%	9,737,072, Claims 2-3
said triacetin is about 20% to about 53% ; said triacetin is about 46%	9,737,072, Claims 2-3
time to maximize the conversion of the hydrogen peroxide triacetin into peracetic acid is about 30 seconds to about five minutes	8,546,449, Claims 10-11; 9,363,997, Claims 10-11
wherein the percent of triacetin that is converted into peracetic	8,546,449, Claim 12;

acid is **about 40.9% to about 85.7%**

9,363,997, Claim 11

The term is not defined in any of the Asserted Patents or their respective file histories. The use of “about” in each of these claims renders the claims indefinite because a POSA cannot determine the bounds of the recited numerical values and ranges. “[A] patent must be precise enough to afford clear notice of what is claimed, thereby appris[ing] the public of what is still open to them. . . Otherwise there would be [a] zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims.” *Nautilus*, 572 U.S. 909-10 (internal quotations and citations omitted). Thus, “[w]hen a word of degree is used the district court must determine whether the patent’s specification provides some standard for measuring that degree.” *Exxon Rsch. & Eng’g Co. v. United States*, 265 F.3d 1371, 1381 (Fed. Cir. 2001); see *Sonix Tech. v. Publ’ns, Int’l, Ltd.*, 844 F.3d 1370, 1378 (Fed. Cir. 2017) (“Our prior cases establish that the written description is key to determining whether a term of degree is indefinite.”) Here, neither the claims, specifications, nor prosecution histories provide any guidance as to the upper or lower limits of each of the “about” values. A POSA would recognize this “zone of uncertainty” to be his own subjective assessment regarding how far beyond the recited values the term “about” extends the scope of the claims.

The intrinsic evidence cited by Plaintiff to-date in support of its plain meaning construction does nothing to illuminate a standard for measuring the extent of the claims under the term of degree “about.” To the contrary, Plaintiff’s citations to the specification either merely repeat the claim language verbatim—e.g., “mole ratio of ... about 2.98:1 to about 12:84:1”—or give exemplary values that are precisely the same numerical value as recited in the claims—e.g., “the mole ratio ... [is] 2.98:1” or “a mole ratio of 12.84:1.” (*Compare, e.g.,* claim 449, Claim 3 with ‘449 patent, 9:4-5, 9:57-58, 10:31-32; see also ‘449 patent claim 7 (“about 1.82% to about

7.28%”), 14:64-65 (same), 16:66-17:1 (same); ‘449 claim 10 (“about 30 seconds to about five minutes”), 6:3-6 (same), 15:27-32 (same); 17:21-22 (same); 15:52 (“30 seconds”), 15:58-59 (“about 30 seconds to five minutes”), 25:40-26:4 (“one minute,” “two minutes,” “five minutes”).) Accordingly, while “[s]ome modicum of uncertainty ... is the price of ensuring the appropriate incentives for innovation,” nothing in the intrinsic evidence gives any guidance to a POSA to determine which numerical ranges and values are reasonably commensurate with the scope of the claims to determine how far from such numerical values one must go to escape their scope. *Nautilus*, 572 U.S. at 909. (internal quotations omitted).

Additionally, the recited values vary in their numerical precision (by reciting different number of significant figures—e.g., “a pH of about 11.2 to about 13.37” and molar ratios of either “about 2.98:1 to about 12.84:1” or about “4.2:3.8:1”) and by using different measures (by reciting “seconds” and “minutes”—e.g., “about 30 seconds to about five minutes”). Thus, the claim language itself further shows the lack of any reasonably certain measure for how far each of the claims reach. For instance, is the scope of “about” based on measurement precision commensurate with the recited significant figures or does it extend beyond that? For instance, does a pH of about 13.37 extend to 13.38 (± 0.01), 13.47 (± 0.1), 13.52 (± 0.15), or more? Does that same extent— ± 0.01 , ± 0.1 , ± 0.15 , or more—apply equally to “about 11.2,” or is it different? With respect to time, does “about 30 seconds” include ± 1 s, ± 2 s, ± 5 s, or more and, again, is that the same for the recited “about 5 minutes” (i.e., 300 seconds) or does the use of “minutes” instead of “seconds” provide a different extent? Neither the specification nor prosecution history provide any guidance on the matter, leaving unclear how far outside the recited numerical values an alleged infringer must go to avoid literal infringement. Ex. 9, Klibanov Decl., ¶44.

Plaintiff's and its expert's position do not resolve the indefiniteness of "about" since all they do is replace one indefinite term of degree ("about") for another indefinite term of degree ("approximate(ly)" or "in close proximity to"). *See generally* Ex. 10, Whiteker Decl., ¶10, p. 3, fifth through ninth rows of table; p. 5, third through seventh rows of table; p. 6, second and third rows of table; and p. 7, second through eighth rows of table. But neither "approximate(ly)" nor "in close proximity to" provides a reasonably objective measure and thus Plaintiff's positions still fail to "inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus*, 572 U.S. at 910. Ex. 9, Klibanov Decl., ¶48.

Consequently, the extent to which the recited term of degree "about" expands the recited claim limitations is left to a purely subjective determination. Because the claims are subject to competing experts subjectively disagreeing on the scope of the claims, and there is nothing in the specification to help guide the Court or a jury to determine which one would be correct, the claims must be found to be indefinite. *See Niazi Licensing Corp. v. St. Jude Med. S.C., Inc.*, 30 F.4th 1339, 1348 (Fed. Cir. 2022) ("we have determined that terms of degree render a claim indefinite where the intrinsic evidence (or extrinsic evidence, where relevant and available) provides insufficient guidance as to any objective boundaries for the claims—including where the claims are "purely subjective" such that their scope cannot be determined with reasonable certainty").

4. "Allowing the reaction medium sufficient time to maximize the conversion of the hydrogen peroxide triacetin into peracetic acid."⁴

Clean Chemistry Proposed Construction	Enviro Tech Proposed Construction
"allowing the reaction medium sufficient time to achieve the highest possible conversion of the hydrogen peroxide and the triacetin into peracetic acid;" otherwise indefinite	Plain and ordinary meaning

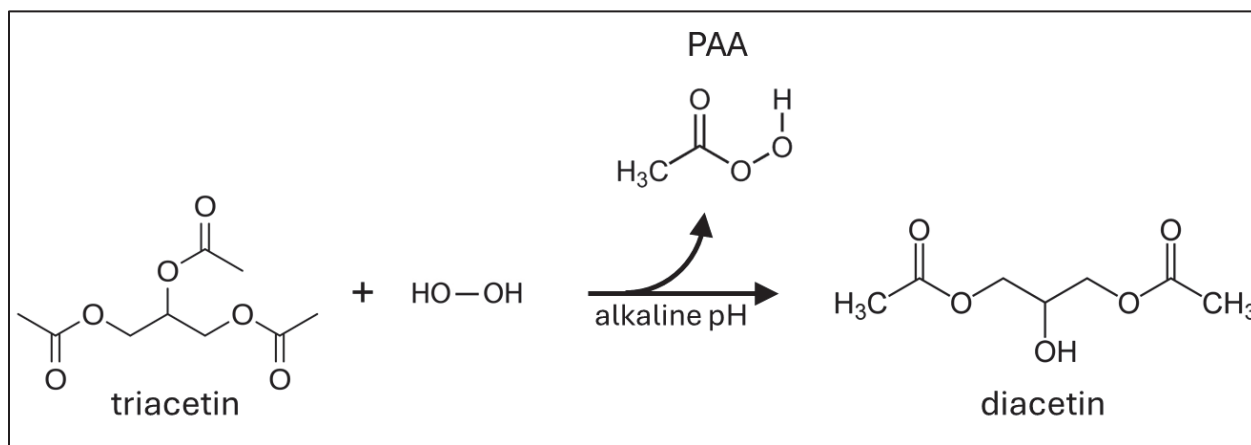
⁴ From a review of the file history, the phrase "hydrogen peroxide triacetin" should read "hydrogen peroxide [and the] triacetin." The originally filed claim recited "allowing the reaction medium sufficient

This phrase is recited in and impacts the scope and validity of Claim 9 of the ‘449 patent and claim 9 of the ‘997 patent.

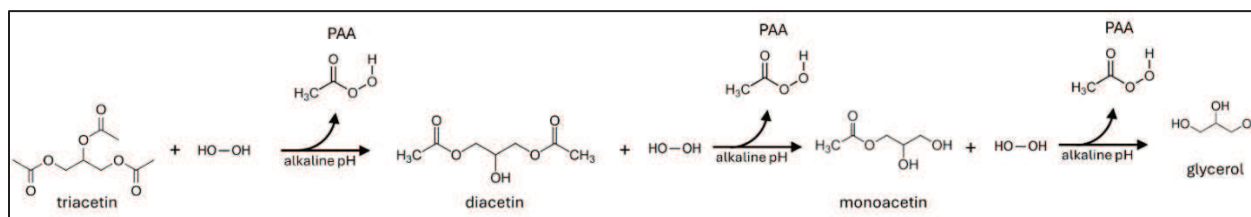
A POSA would have understood that the term “maximize” has its plain and ordinary meaning in the claims—i.e., “raise to the highest possible degree.” Exhibit 15, *Maximize*, WEBSTER’S NEW WORLD COLLEGE DICTIONARY(4th ed. 2000)]; Exhibit 16, *Maximize*, COLLINSDICTIONARY.COM, <https://www.collinsdictionary.com/us/dictionary/english/maximize> (last visited Aug. 3, 2025) (same); *see also* Exhibit 17, *Maximize*, BRITANNICA.COM, <https://www.britannica.com/dictionary/maximize> (last visited Aug. 3, 2025) (“to increase (something) as much as possible”); Exhibit 18, *Maximize*, DICTIONARY.CAMBRIDGE.ORG, <https://dictionary.cambridge.org/us/dictionary/learner-english/maximize> (last visited Aug. 3, 2025) (“to increase something as much as you can”); Exhibit 19, *Maximize*, DICTIONARY.COM, <https://www.dictionary.com/browse/maximize> (last visited Aug. 3, 2025) (“to increase to the greatest possible amount or degree”).) Here, the claims recite “maximize the conversion of the hydrogen peroxide (and the) triacetin into peracetic acid.” Accordingly, the proper construction for these terms is “allowing the reaction medium sufficient time to achieve *the highest possible* conversion of the hydrogen peroxide and the triacetin into peracetic acid.” Ex. 9, Klibanov Decl. ¶56.

time to maximize the conversion of the hydrogen peroxide and the acetyl precursor into peracetic acid.” Exhibit 11, March 24, 2011, p. 3 (notated pg. 62), originally filed claim 16. The Examiner rejected the claims and recommended amending the claims to recite “triacetin” instead of “acetyl precursor.” Exhibit 12, April 1, 2013, Non-Final Rejection, p. 7 (notated as 6). Applicant amended some, but not all claims, to recite “triacetin” in place of “acetyl precursor.” Exhibit 13, May 23, 2013 Response to Office Action, pp. 3-5, Claims 7, 8, 16-18. The Examiner subsequently allowed the claims and amended additional claims to remove “acetyl precursor” and add “triacetin.” Exhibit 14, July 15, 2013 Notice of Allowance & Examiner’s Amendment, p. 7 (notated p. 2). In doing so, the Examiner removed “and the acetyl precursor” and replaced it solely with “triacetin.” *Id.* Based on the originally filed claim and Examiner’s recommendation, the removal of “and the” from the claim appears to be in error. Thus, Defendant reads this claim term as “hydrogen peroxide (and the) triacetin.” Ex. 9, Klibanov Decl., ¶50.

The parties agree on the construction of the term “triacetin.” A POSA would understand that triacetin has three acetyl groups. Ex. 9, Klibanov Decl. ¶57. A POSA would understand that, under alkaline conditions, triacetin and hydrogen peroxide are converted into peracetic acid (PAA) and diacetin by reaction of one of the three acetyl groups on triacetin, as follows:



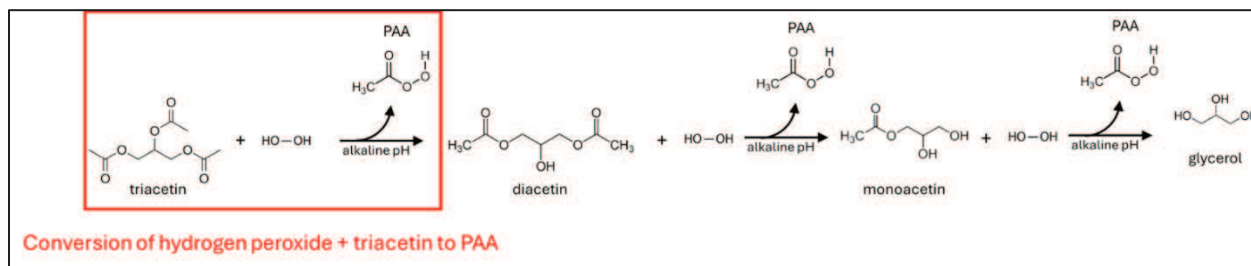
Ex. 9, Klibanov Decl., ¶58. A POSA would further understand that diacetin can be further converted into PAA and monoacetin by reaction of one of the two acetyl groups on diacetin and that such monoacetin can also be further converted into PAA and glycerol by reaction of monoacetin’s acetyl group. This overall series of reactions converting triacetin $\rightarrow$ diacetin $\rightarrow$ monoacetin and hydrogen peroxide into PAA can be depicted as follows:



Ex. 9, Klibanov Decl., ¶59.

Reading the claim language itself, “conversion” / “amount...converted” refers specifically to the conversion of “hydrogen peroxide (and) *triacetin*” into peracetic acid. Thus, a POSA would have understood the plain meaning of the claims to be referring to “maximiz[ing] the conversion

of hydrogen peroxide (and the) triacetin into peracetic acid” and does not include or relate to the conversion of hydrogen peroxide (and) diacetin or monoacetin into PAA:



Ex. 9, Klibanov Decl., ¶60.

Plaintiff’s expert appears to agree with Clean Chemistry’s proposed construction, by referring solely to “triacetin”: “[a] skilled artisan would recognize that a sufficient time can be determined by testing the reaction mixture during conversion to determine the amount of peracetic acid and triacetin present.” Ex. 10, Whiteker Decl., ¶10, p. 3, first row of table. To the extent that Plaintiff seeks to interpret “conversion of hydrogen peroxide (and) triacetin into PAA” to include conversion of diacetin and monoacetin, such an interpretation would be inconsistent with the plain meaning of the expressly recited claim language and would render the claim term indefinite. Ex. 9, Klibanov Decl., ¶61.

5. “The time to maximize the conversion of the hydrogen peroxide triacetin into peracetic acid is about 30 seconds to about five minutes”

Clean Chemistry Proposed Construction	Enviro Tech Proposed Construction
Indefinite; otherwise should be construed as “the time to achieve the highest possible conversion of the hydrogen peroxide and the triacetin into peracetic acid is about 30 seconds to about five minutes”	Plain and ordinary meaning

The above phrase appears in and impacts the scope and validity of Claim 10 of U.S. 8,546,449. This phrase is indefinite, as described above in section 3, because it recites “*about 30 seconds to about five minutes.*” Similarly, “maximize the conversion of the hydrogen peroxide

(and) triacetin into peracetic acid” should be construed as set forth in section 4 above—i.e., “to achieve the highest possible conversion of the hydrogen peroxide and the triacetin into peracetic acid.”

Under Plaintiff’s no construction proposal, Plaintiff’s expert contends that “[a] skilled artisan would recognize that this limitation applies when a particular reaction mixture reaches maximum conversion of hydrogen peroxide and/or triacetin at a time point between, or in close proximity to, 30 seconds and 5 minutes.” Ex. 10, Whiteker Decl., ¶10, p. 3, third row of table. Plaintiff’s expert’s position is divorced from the express claim language, imprecise, and further indefinite in that it uses “and/or” ambiguously and fails to address the express claim requirement of “the conversion of hydrogen peroxide triacetin *into peracetic acid*.”⁵ See Ex. 9, Klibanov Decl. ¶¶63-64.

Plaintiff’s expert would therefore seek to wrongly apply the plain meaning of this claim based on the maximum conversion of hydrogen peroxide *or* triacetin, which would improperly consider the maximum conversion of hydrogen peroxide alone. Ex. 9, Klibanov Decl. ¶66. But the maximum conversion of hydrogen peroxide in a reaction mixture is not solely converted as part of converting hydrogen peroxide and triacetin to PAA because hydrogen peroxide and diacetin or monoacetin is also converted to PAA. A POSA would not interpret the claim language in the manner of Plaintiff’s expert, demonstrating Plaintiff’s intent to interpret the claim in a manner that is inconsistent with the plain and ordinary meaning of the recited claim language and would render the claim indefinite. Ex. 9, Klibanov Decl. ¶67. The claim plainly requires maximizing the conversion of the hydrogen peroxide *and* the triacetin into peracetic acid, which, as explained

⁵ The phrase “hydrogen peroxide triacetin” in this claim is unsupported in the Specification, and its meaning is unclear. As noted in footnote 3 regarding claim 9, the absence of “and the” in claim 10 of the ‘449 patent appears to be an uncorrected error from the Examiner’s amendment.

above, is solely directed to the conversion of hydrogen peroxide and triacetin into PAA and diacetin. Ex. 9, Klibanov Decl. ¶67. Thus, if the Court does not find this claim indefinite, Clean Chemistry’s proposed construction is consistent with the claim language and should be adopted.

6. “Sampling the reaction medium to determine the time required to maximize the amount of hydrogen peroxide triacetin that are converted into peracetic acid”

Clean Chemistry Proposed Construction	Enviro Tech Proposed Construction
“taking samples of the reaction medium at various times to determine the time required to achieve the highest possible conversion of hydrogen peroxide and triacetin into peracetic acid”	Plain and ordinary meaning

This phrase appears in and affects the scope and validity of U.S. Patent 8,546,449, Claim 11.

As noted above, “*maximize* the amount of hydrogen peroxide triacetin that are converted into peracetic acid” means “*to achieve the highest possible* conversion of hydrogen peroxide and triacetin into peracetic acid.”

With respect to this term, Plaintiff’s expert contends that “[a] skilled artisan would recognize that this refers to taking samples of the reaction medium to determine the amount of time required to maximize the conversion of both hydrogen peroxide and triacetin into peracetic acid.” Ex. 10, Whiteker Decl., ¶10, p. 3, second row of table. Accordingly, Plaintiff’s expert agrees that “sampling the reaction medium” refers to “taking samples of the reaction medium.” Plaintiff’s expert likewise does not appear to dispute that the taking of these samples must occur at various times, which would be necessary to “determine the time required” to maximize/achieve the highest possible conversion of hydrogen peroxide and triacetin into peracetic acid. Ex. 9, Klibanov Decl., ¶70.

Critically, here Plaintiff’s expert properly acknowledges that the conversion of hydrogen peroxide triacetin into PAA refers to “the conversion of both hydrogen peroxide *and* triacetin into peracetic acid.” This statement in the context of claim 11 of the ‘449 patent is contrary to the statement made by Plaintiff’s expert with respect to claim 10, which claim 11 depends on, where he asserted that the substantively identical claim language—“the conversion of the hydrogen peroxide triacetin into peracetic acid”—instead referred to “conversion of hydrogen peroxide *and/or* triacetin” with no mention of peracetic acid. Ex. 9, Klibanov Decl. ¶71. Accordingly, Plaintiff’s expert’s statements regarding claim 11 only highlight that his opinions regarding claim 10 are incorrect and indefinite because they inconsistently interpret the meaning of the same recited claim language. The Court should therefore adopt Clean Chemistry’s proposed construction for this term.

**7. “The *liquid* is triacetin *defining* a hydrogen peroxide-triacetin solution”
(Emphasis added.)**

Clean Chemistry	Enviro Tech
Indefinite	Plain and ordinary meaning

This phrase appears in and affects the scope and validity of Claim 19 of the ‘449 Patent. Enviro Tech’s expert Declaration submitted with their preliminary claim constructions did not address or seek to define this phrase and Enviro Tech has not otherwise provided any definition of its “plain and ordinary meaning.”

At a minimum, on the face of the patent claim, there is no antecedent basis for the word “liquid.” Claim 19 depends from Claim 2, which in turn depends from Claim 1. Ex. 1, ‘449 Patent, col. 34, lines 48-64, and col. 36, lines 13-14. Neither Claim 1 nor Claim 2 recites the word “liquid.” Further, the phrasing “*triacetin* defin[es] a hydrogen peroxide-*triacetin* solution” is nonsensical and unclear – one component is supposed to define a composition as a solution, and define that

solution as containing itself and another component. Turning to the Specification, it provides no enlightenment as to the meaning of this non-sensical phrase, and POSA would have no way to interpret the phrase in absence of further guidance from the intrinsic record. Ex. 9, Klibanov Decl., ¶75. Thus, this phrase is clearly indefinite.

B. U.S. 9,363,997

1. Arrangement; order of steps

The process steps appear in Claim 1 of the ‘997 Patent and affect the validity and scope of Claims 1-14 thereof. The arguments in favor of Clean Chemistry’s proposed construction at Section A.1. above for the ‘449 Patent apply here and are incorporated by reference for brevity, supplemented with the following additional comments.

Claim 1 of the ‘997 Patent is reproduced below, with certain terms indicated in bold underlining.

Claim 1 of ‘997
A method of generating a non-equilibrium solution of peracetic acid, comprising: - providing <u>water</u>; - introducing triacetin and aqueous hydrogen peroxide to <u>the</u> water; - mixing <u>the</u> triacetin and <u>the</u> aqueous hydrogen peroxide with <u>the</u> water to form a mixture; - adding an aqueous source of an alkali metal or earth alkali metal hydroxide to <u>the</u> mixture; and - forming a reaction medium comprising a non-equilibrium solution of peracetic acid.

This claim is similar to Claim 1 of the ‘449 Patent above, and the arguments for interpreting this claim as requiring the steps to be performed in the order recited are the same as above for Claim 1 of the ‘449 Patent. In Claim 1 of that ‘449 Patent, triacetin and hydrogen peroxide are introduced in the form of a hydrogen peroxide-triacetin solution, while in the present ‘997 Patent

claim, triacetin and hydrogen peroxide are listed separately. This does not change the overall interpretation of the steps as required to be performed in the order listed. In this claim, the triacetin and hydrogen peroxide can be introduced to the water at the same time, or one can be introduced prior to the introduction of the other. The fact remains that the water must be present so that the triacetin *and* the hydrogen peroxide can be introduced thereto, or that the mixture formed from the water, hydrogen peroxide, and triacetin must be present for the aqueous source of an alkali metal or earth alkali metal hydroxide to be added to *the* mixture.

2. “[a] non-equilibrium solution [of peracetic acid]”

This phrase appears in Claim 1 of the ‘997 Patent and affects the validity and scope of Claims 1-14. The arguments in favor of Clean Chemistry’s proposed construction at Section A.2. above for the ‘449 Patent apply here and are incorporated by reference for brevity.

3. “Allowing the reaction medium sufficient time to maximize the conversion of the hydrogen peroxide and the triacetin into peracetic acid.”

The above phrase is from Claim 9 of the ‘997 Patent and affects scope and validity of Claims 9-11 thereof. The arguments in favor of Clean Chemistry’s proposed construction at Section A.4. above for the ‘449 Patent apply here and are incorporated by reference for brevity.

4. “The time to maximize the conversion of the hydrogen peroxide and the triacetin into peracetic acid is about 30 seconds to about five minutes”

The above phrase is from Claim 10 of the ‘997 Patent and affects scope and validity of Claims 10-11 thereof. The arguments in favor of Clean Chemistry’s proposed construction at Section A.5. above for the ‘449 Patent apply here and are incorporated by reference for brevity.

C. U.S. 9,730,443**1. “A non-equilibrium solution of peracetic acid, comprising:”**

Clean Chemistry	Enviro Tech
The preamble is limiting	The preamble is <i>not</i> limiting

The above phrase is the preamble of Claim 1 of U.S. Patent 9,730,443, and it affects the scope and validity of Claims 1-3 thereof. For context, Claim 1 of U.S. 9,737,443 is reproduced below.

Claim 1:
A non-equilibrium solution of peracetic acid, comprising: a. peracetic acid; b. hydrogen peroxide; c. triacetin; d. 1,2,3-propanetriol; e. an aqueous source of an alkali metal or earth alkali metal hydroxide; and f. water.

Nothing in the intrinsic record suggests that the preamble in this claim is non-limiting. The preamble is considered by Clean Chemistry to be limiting due to the presence of the word *solution*. There are no bounds otherwise on the concentrations or relative amounts of any of the components of the claimed solution. A POSA would understand that at some proportions and/or at some relative amounts, the components can exist separate and apart from one another, or if brought together can form a mixture that is *not* a solution. Ex. 9, Klibanov Decl., ¶38.

The term “solution” is interpreted from the perspective of one of ordinary skill in the art, in which a solution is a homogeneous liquid and does not include heterogeneous mixtures or the components standing alone. Ex. 9, Klibanov Decl., ¶37. Without the preamble breathing life into this claim, the claim would be missing critical information that is needed to identify that which is

claimed and to differentiate it from known items found in nature, e.g., Planet Earth, which would otherwise be encompassed by the claim without the preamble serving to limit the scope of that which is claimed. For these reasons, this preamble must be construed as limiting in order to preserve the validity of the claim and those that depend from it. Failing that, Claim 1 and those depending from it are invalid as indefinite.

2. “[a] non-equilibrium solution [of peracetic acid]”

This phrase appears in Claim 1 of the ‘443 Patent and affects the scope and validity of Claims 1-3 thereof. The arguments in favor of Clean Chemistry’s proposed construction at Section A.2. above for the ‘449 Patent apply here and are incorporated by reference for brevity.

D. U.S. 9,737,072

1. “A hydrogen peroxide-acetyl precursor solution, comprising:”

Clean Chemistry	Enviro Tech
The preamble is limiting	The preamble is <i>not</i> limiting

The above phrase is the preamble of Claim 1 of the ‘072 Patent, and it affects the scope and validity of its Claims 1-3. For context, Claim 1 of ‘072 Patent is reproduced below.

Claim 1:
A hydrogen peroxide-acetyl precursor solution, comprising: a. aqueous hydrogen peroxide; b. triacetin; c. a trace amount of peracetic acid; and d. water.

Nothing in the intrinsic record suggests that the preamble in this claim is non-limiting. The preamble is considered by Clean Chemistry to be limiting due to the presence of the word *solution*. For the same reasons set forth above with respect to the preamble of Claim 1 of the ‘443 Patent, and all of the arguments above with respect to Section C.1. apply here with equal force and

incorporated herein by reference for brevity. This preamble also must be construed as limiting in order to preserve the validity of the claim and those that depend therefrom. Failing that, Claim and those depending therefrom are invalid as indefinite, anticipated by a host of materials found in nature, or ineligible subject matter under 35 U.S.C. § 101.

2. “Trace amount”

Clean Chemistry Proposed Construction	Enviro Tech Proposed Construction
Indefinite	Plain and ordinary meaning

This phrase appears in Claim 1 of the ‘072 Patent and affects scope and validity of its Claims 1-3. Enviro Tech’s position is that “trace amount” has its plain and ordinary meaning, although they have provided no indication of what it considers that meaning to be. Clean Chemistry’s position is that this term is indefinite for failing to provide reasonable certainty to POSA about the amount involved. The dependent claims do not assist with interpretation of “trace amount” because the dependent claims are directed to the molar ratios and concentrations of triacetin and hydrogen peroxide. Peracetic acid is not mentioned in the dependent claims.

The phrase “trace amount” is indefinite because it is a subjective term of degree and the Specification does not provide an objective basis for determining its meaning. There is no discussion in the Specification of the desirability or non-desirability of the presence of peracetic acid in the claimed solutions, nor the desired or optimal amounts of peracetic acid in the claimed solutions. The Specification does state that “a trace amount of PAA ... is formed within the first day of preparing the hydrogen peroxide-acetyl precursor solution.” Ex. 4, ‘072 Patent, col. 9, lines 45-46 and 50-52. However, Examples 1 and 7 of Enviro Tech’s patents report *zero* peracetic acid in the hydrogen peroxide-triacetin solutions on the first day Ex. 4, ‘072 Patent, col. 9, line 66, to col. 10, line 20, and col. 13, lines 10-30; Tables I and VII. If the claims were to encompass

solutions containing *no* peracetic acid, the phrase “trace amount of peracetic acid” would be read out of the claims. No other discussion of “trace amount” is found in the Specification.

Another way to view “trace amount” is from the disclosures of peracetic acid concentrations in the ‘072 Patent Specification, which indicates at column 6, lines 42-43, “a high level of PAA, from about 1% to about 7.1%,” which is reiterated at column 18, lines 13-14: “high levels of PAA, from about 1% to about 7.1%.”⁶ From these statements in the ‘072 Patent Specification, it can be inferred that if an amount of about 1% or more is a “high level” of peracetic acid, then a trace, low, or moderate amount of peracetic acid is an amount that is less than about 1% peracetic acid. However, that which is a “low,” “moderate,” or “trace” amount was left undefined and indefinite.

Furthermore, since Claim 1 uses the open transitional phrase “comprises,” Claim 1 encompasses solutions having *more* than a “trace amount” of peracetic acid; simple logic dictates that such solutions comprise a trace amount of peracetic acid within the larger amount of peracetic acid in the solution. This interpretation is supported by the file history of the ‘072 Patent, in which the claims were rejected for double patenting over Claims 1-3 of the co-pending application from which the ‘443 Patent was issued. Ex. 20, ‘072 Patent, Non-final Office Action dated January 30, 2017, p. 3-4 (notated as 2-3). At the time of the double-patenting rejection, the ‘443 Patent’s corresponding and then copending application’s Claim 1 recited “a non-equilibrium solution of peracetic acid comprising peracetic acid, hydrogen peroxide, triacetin, 1,2,3-propanetriol and alkali metal or earth alkali metal hydroxide, and water.” Ex. 21, ‘443 Patent, Claims pending on March 7, 2016, p. 1 (notated p. 61). Neither that prior version of Claim 1, nor Claim 1 as ultimately

⁶ The Specification defines “%” as meaning weight percent, except when referring to the percent converted.” Ex. 4, ‘072 Patent, col. 7, lines 58-59. Since the quoted phrases do not refer to percent converted, the “%” therein is weight percent.

granted in the ‘443 Patent, contains any limitation on the amount of peracetic acid present in the claimed solution. In response to the double-patenting rejection in the ‘072 Patent, a Terminal Disclaimer was filed over the ‘443 Patent, and no arguments were made. Ex. 22, ‘072 Patent, Response to Non-final Office Action dated March 7, 2017, pp. 2-3. The absence of any arguments to refute the Examiner’s rejection can be interpreted as acquiescence thereto.

Without explanation, Enviro Tech’s expert Declaration referred to the “Enviro-Tech Validation Method created on January 7th, 2004,” which method is not referenced anywhere in the ‘072 Patent Specification. Ex. 10, Whiteker Decl., ¶10, p. 7, first row of table.

Enviro Tech’s expert Declaration further stated that “[a] skilled artisan would recognize that “trace amount” refers to an amount corresponding to the lower bound at the limit of detection, which is at least as low as 40ppb or any other such lower bound of detection.” Ex. 10, Whiteker Decl., ¶10, p. 7, first row of table. The expert’s phrase “or any other such lower bound of detection” is itself indefinite and implies that the lower limit depends on the detection method used. Ex. 10, Whiteker Decl., ¶10, p. 7, first row of table. While the Specification mentions multiple detection methods and specifies that one method, modified DPD method (Ex. 4, ‘072 Patent, col. 8, lines 38-53), can be used when “low” (otherwise undefined) peracetic acid concentrations are involved, the Examples use a different method, namely ceric sulfate-sodium thiosulfate titration. Ex. 4, ‘072 Patent, col. 7, line 65, to col. 8, line 27. Furthermore, no guidance is given regarding which one to use, or what amount or range of amounts needs to be detected to be considered a “trace amount.” The intrinsic record thus leaves a POSA without guidance as to what does and does not constitute a “trace amount.” Ex. 9, Klivanov Decl., ¶90. In light of the intrinsic and extrinsic evidence, the phrase “trace amount” is incapable of providing reasonable certainty as to the meaning or scope of the claim and therefore is indefinite.

VIII. CONCLUSION

Defendant Clean Chemistry respectfully requests that the Court adopt Defendant Clean Chemistry's proposed claim term constructions.

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Respectfully submitted,
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CERTIFICATE OF SERVICE

I hereby certify that counsel of record who have appeared electronically in this case are being served with this document on August 4, 2025, by way of the primary email address that said counsel supplied to the Court's CM/ECF system.

s/R. Andrew Patty II