

FOR THE DISTRICT OF DELAWARE

NEURELIS, INC.

Plaintiff,

V.

PADAGIS LLC, PADAGIS US LLC,
AND PADAGIS ISRAEL
PHARMACEUTICALS LTD.

Defendants.

C.A. No. 24-562-MN

JOINT CLAIM CONSTRUCTION BRIEF

TABLE OF CONTENTS

I.	INTRODUCTION	1
A.	Plaintiff’s Opening Position.....	1
B.	Defendant’s Answering Position.....	1
C.	Plaintiff’s Reply Position	3
D.	Defendant’s Sur-Reply Position.....	4
II.	TECHNICAL BACKGROUND AND THE ASSERTED PATENTS	5
A.	Plaintiff’s Opening Position.....	5
1.	Benzodiazepines for Treatment of Seizure Clusters	5
2.	The Patents-in-Suit.....	7
3.	VALTOCO	8
4.	Padagis’s ANDA and the Present Suit.	8
B.	Defendant’s Answering Position.....	8
1.	The Asserted Patents Make Clear That Water is not an “Impurity” But Provide No Guidance About How Much Water Should be Included	8
2.	The Prosecution History of the Asserted Patents	11
III.	LEVEL OF ORDINARY SKILL IN THE ART	15
A.	Plaintiff’s Opening Position.....	15
B.	Defendant’s Answering Position.....	16
IV.	LEGAL STANDARDS	17
A.	Plaintiff’s Opening Position.....	17
1.	Claim Construction Standards	17
2.	The Legal Meaning of the “Consisting Of” Transitional Phrase.....	17
B.	Defendant’s Answering Position.....	18

1.	The “Consisting of” Transitional Phrase.....	18
2.	Indefiniteness	19
V.	DISPUTED CONSTRUCTIONS	20
VI.	ARGUMENT	20
A.	Plaintiff’s Opening Position.....	20
1.	“Consisting Of” Does Not Need Construction	21
2.	“Consisting Of” Does Not Foreclose Additional Substances in the Claimed “Pharmaceutical Solution.”	22
3.	Intrinsic Evidence Establishes That the Claimed Pharmaceutical Solutions Include Water, Residual Solvents and Other Impurities.	24
4.	Neurelis Did Not Disclaim Water, Residual Solvents, or Other Impurities That Would Ordinarily Be Associated with the Components of the Claimed Solutions.....	28
5.	The Construction Padagis Proposes is Unworkable and Inappropriate.	32
B.	Defendant’s Answering Position.....	34
1.	In The Words of the Applicants, the Asserted Claims “exclude[] anything else” Other Than the Recited Elements, and “[i]n particular ... exclude[] water and oil”	35
2.	If the Asserted Claims Do Not Exclude Water, They Are Indefinite	46
C.	Plaintiff’s Reply Position	50
1.	“Consisting of” Allows for Impurities Ordinarily Associated With The Invention.....	50
2.	The Prosecution History Does Not Support Padagis’s Position	55
3.	The Asserted Claims are Not Indefinite.....	58
D.	Defendant’s Sur-Reply Position.....	61
1.	The Disclaimed Elements Are Not “Impurities”	61

2.	Even if Water is an “Impurity,” Neurelis Disclaimed It.....	66
3.	Alternatively, the Asserted Claims Are Indefinite	67
VII.	CONCLUSION.....	70
A.	Plaintiff’s Position	70
B.	Defendant’s Position	70

TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>Acadia Pharmaceuticals Inc. v. Aurobindo Pharma Ltd.</i> , No. CV 20-985-RGA, 2022 WL 1026983 (D. Del. Apr. 6, 2022)	45, 57, 66
<i>AFG Indus., Inc. v. Cardinal IG Co., Inc.</i> , 239 F.3d 1239 (Fed. Cir. 2001).....	18, 38
<i>All Dental Prodx, LLC v. Advantage Dental Prods., Inc.</i> , 309 F.3d 774 (Fed. Cir. 2002).....	19, 50
<i>Azurity Pharms., Inc. v. Alkem Laboratories. Ltd.</i> , 133 F.4th 1359 (Fed. Cir. 2025)	<i>passim</i>
<i>Biosig Instruments, Inc. v. Nautilus</i> , 783 F.3d 1374 (Fed. Cir. 2015).....	67
<i>Cadence Pharms. Inc. v. Exela PharmSci Inc.</i> , 780 F.3d 1364 (Fed. Cir. 2015).....	22
<i>Conoco, Inc. v. Energy & Environ. Intern., L.C.</i> , 460 F.3d 1349 (Fed. Cir. 2006).....	<i>passim</i>
<i>Ex parte Davis</i> , 80 U.S.P.Q. 448 (Pat. Office Bd. App. 1948).....	18, 21, 30, 50
<i>Dow Chem. Co. v. Nova Chems. Corp. (Canada)</i> , 803 F.3d 620 (Fed. Cir. 2015).....	48, 49, 67
<i>Elkay Manufacturing Co. v. EBCO Manufacturing Co.</i> , 192 F.3d 973 (Fed. Cir. 1999).....	46
<i>Geneva Pharms., Inc. v. GlaxoSmithKline PLC</i> , 349 F.3d 1373 (Fed. Cir. 2003).....	50
<i>Gilead Sciences, Inc. v. Lupin Ltd. et al.</i> , C.A. No. 22-615-MN, D.I. 280 (Memorandum Order dated February 21, 2025)	17
<i>Glaxo Grp. Ltd. v. Apotex, Inc.</i> , 376 F.3d 1339 (Fed. Cir. 2004)	52
<i>In re Gray</i> , 53 F.2d 520 (C.C.P.A. 1931)	18

<i>Halliburton Energy Servs., Inc. v. M-I LLC</i> , 514 F.3d 1244 (Fed. Cir. 2008).....	47
<i>Hill-Rom Servs., Inc. v. Stryker Corp.</i> , 755 F.3d 1367 (Fed. Cir. 2014)	22
<i>Integra LifeSciences Corp. v. HyperBranch Med. Tech., Inc.</i> , No. CV 15-819-LPS-CJB, 2017 WL 5172396 (D. Del. Nov. 8, 2017).....	40, 53
<i>Intel Corp. v. VIA Techs., Inc.</i> , 319 F.3d 1357 (Fed. Cir. 2003).....	58
<i>InterDigital Communications, Inc. v. U.S. Int'l Trade Comm'n</i> , 601 Fed. Appx. 972 (Fed. Cir. 2015).....	34, 64
<i>Interval Licensing LLC v. AOL, Inc.</i> , 766 F.3d 1364 (Fed. Cir. 2014).....	48, 49
<i>IQASR LLC v. Wendt Corp.</i> , 825 Fed. App'x 900	48, 49, 59, 68
<i>Kim v. Earthgrains Co.</i> , No. 01 C 3895, 2010 WL 625220 (N.D. Ill. Feb. 18, 2010).....	35, 41
<i>Markman v. Westview Instruments, Inc.</i> , 52 F.3d 967 (Fed. Cir. 1995).....	22
<i>Melinta Therapeutics, LLC v. Nexus Pharms., Inc.</i> , No. 21-cv-02636, 2024 WL 4799896 (N.D. Ill. Nov. 15, 2024)	32, 41
<i>Merck & Co., Inc. v. Teva Pharms. USA, Inc.</i> , 395 F.3d 1364 (Fed. Cir. 2005).....	22
<i>Morton Int'l, Inc. v. Cardinal Chem. Co.</i> , 5 F.3d 1464 (Fed. Cir. 1993).....	50
<i>Multilayer Stretch Cling Film Holdings, Inc. v. Berry Plastics Corp.</i> , 831 F.3d 1350 (Fed. Cir. 2016).....	18, 46
<i>Nautilus Inc. v. Biosig Instruments, Inc.</i> , 572 U.S. 898 (2014).....	20, 58
<i>Nautilus, Inc. v. Biosig Instruments, Inc.</i> , 134 S. Ct. 2120 (2014).....	19
<i>Norian Corp. v. Stryker Corp.</i> , 363 F.3d 1321 (Fed. Cir. 2004).....	<i>passim</i>

<i>Omega Eng'g, Inc. v. Raytek Corp.</i> , 334 F.3d 1314 (Fed. Cir. 2003).....	43, 64, 65
<i>Otsuka Pharm. Co. v. Lupin Ltd.</i> , 2022 WL 2952759 (D. Del. July 26, 2022)	<i>passim</i>
<i>Phillips v. AEH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005)	1, 18, 23
<i>Praxair, Inc. v. ATMI, Inc.</i> , 543 F.3d 1306 (Fed. Cir. 2008).....	20
<i>Rex Computing Sys., Inc. v. Cerebras Systems Inc.</i> , C.A. No. 21-525-MN, D.I. 288 (Memorandum Order dated January 21, 2025)	17
<i>Rheox, Inc. v. Entact, Inc.</i> , 276 F.3d 1319 (Fed. Cir. 2002).....	44, 57, 66
<i>Shire Dev. Inc. v. Cadila Healthcare Ltd.</i> , No. CV 10-581 (KAJ), 2015 WL 4596410 (D. Del. July 28, 2015).....	<i>passim</i>
<i>Tech. Properties Ltd. LLC v. Huawei Techs. Co., Ltd.</i> , 849 F.3d 1349 (Fed. Cir. 2017).....	44, 45, 57, 66
<i>Teva Pharm. USA, Inc. v. Sandoz, Inc.</i> , 789 F.3d 1335 (Fed. Cir. 2015).....	20
<i>TriVascular, Inc. v. Samuels</i> , 812 F.3d 1056 (Fed. Cir. 2016)	45
<i>Vehicular Techs. Corp. v. Titan Wheel Int'l, Inc.</i> , 212 F.3d 1377 (Fed. Cir. 2000).....	19, 21, 38
<i>Verizon Servs. Corp. v. Vonage Holdings Corp.</i> , 503 F.3d 1295 (Fed. Cir. 2007).....	32
<i>Vita-Mix Corp. v. Basic Holding, Inc.</i> , 581 F.3d 1317 (Fed. Cir. 2009).....	34, 64
Statutes	
35 U.S.C. § 112(b)	19
Other Authorities	
MPEP	1, 32, 58
MPEP § 2111.03	3, 17, 21, 30

I. INTRODUCTION

A. Plaintiff's Opening Position

The only claim term in dispute concerns the well-established scope of the transitional phrase “consisting of.” Plaintiff Neurelis submits that the phrase should be given the same meaning that the district courts, the Federal Circuit, its predecessor court, and the MPEP have all provided for decades. In contrast, defendant Padagis attempts to rewrite the law and persuade this Court to inscribe the words “excluding water and oil” into the claims – words nowhere found in the patent – so that it may advance a noninfringement argument where none exists. In doing so, Padagis seeks to upend the well-rooted law defining the scope of “consisting of” to impose a new construction that is contrary to law and logic, and devoid of any factual basis.

Given how entrenched the “consisting of” language is in the law, Neurelis respectfully submits that the Court need not engage in claim construction at all. There is no basis to depart from the ample authority that establishes that the claimed “pharmaceutical solution for nasal administration” “consisting of” certain ingredients includes impurities, residual solvents, and other incidental elements that a person of ordinary skill in the relevant art would ordinarily associate with components of the solution. *See Conoco, Inc. v. Energy & Environ. Intern., L.C.*, 460 F.3d 1349, 1360-61 (Fed. Cir. 2006) (citing *Phillips v. AEH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005)). That is the only definition that the law prescribes and that the Court should apply.

B. Defendant's Answering Position

Padagis's position is the only one consistent with the established principles of claim construction. It is also based on the applicants' express statements during prosecution that resulted in the allowance of the claims. Neurelis tries to fit the facts of this case through the narrow exception of impurities unrelated to the alleged invention. But water, oil, and the other potential

ingredients discussed by the applicants throughout the specification (but omitted from the claims) are related to the alleged invention and are not impurities.

Under the Federal Circuit’s controlling decisions in *Conoco* and *Norian*, and as applied by this Court in cases such as *Otsuka* and *Integra LifeSciences*, Padagis’s proposed construction is correct, and the unrecited ingredients are excluded. And, were there any doubt about the proper construction, the applicants clearly and unmistakably disclaimed water and oil. They amended the claims, replacing an open-ended “comprising” transition with the restrictive “consisting of,” and went on to repeatedly emphasize during multiple iterations of prosecution that the invention excluded these specific ingredients (e.g., water) as a manner of distinguishing the claims from the prior art. This history aligns squarely with the Federal Circuit’s decision in *Azurity*, where it found that such statements “amply” met the burden of clear and unmistakable disclaimer.

Therefore, the Asserted Claims cannot include other potential ingredients, including water and oil.

If the Asserted Claims are not so limited, then they are indefinite. Although the specification of the Asserted Patents describes the use of other potential ingredients, such as oil and water, it fails to inform with reasonable certainty the extent to which the claims can include them. Water, in particular, can have significant effects on the formulation given the poor water solubility of benzodiazepines. Consequently, the presence of water and its relative amount are critical components of the invention. If the claims are open to its inclusion, a POSA is not able to determine with reasonable certainty when a composition including water would fall within the scope of the Asserted Claims. Therefore, if the claim language does not exclude other potential ingredients, in particular water, then the Asserted Claims are indefinite.

C. Plaintiff's Reply Position

Padagis's argument regarding the interpretation of "consisting of" in the Asserted Claims is both legally improper and devoid of any factual support. At the core of this dispute is a fundamental misconception of what is an "impurity" and what is an "ingredient." The undisputed law renders impurities included within a "consisting of" claim, while additional ingredients are excluded. Ingredients must be added intentionally and with a functional purpose while impurities are incidental to active ingredients. Padagis does not dispute that water is a commonly recognized impurity normally identified with the components listed in the Asserted Claims. *See* Donovan Decl. at ¶¶ 55-56. But, nevertheless, Padagis argues that all water, including any amount that would constitute an impurity, are excluded from the scope of the Asserted Claims. There is no factual support for this position nor any legal precedent.

In its responsive argument, Padagis contends that Neurelis made a clear and unmistakable disavowal of claim scope by stating that the "consisting of" claims exclude additional ingredients, which – Padagis asserts – should extend to residual amounts of water and other impurities. But Padagis cannot point to a single statement disavowing or otherwise demonstrating that Neurelis sought to change the legal meaning of "consisting of." In fact, Padagis finds itself citing to and relying on portions of the prosecution history where Neurelis specifically references the Manual of Patent Examining Procedure ("MPEP") § 2111.03 ("Transitional Phrases") and the applicable law when it adopted the "consisting of" language. Facing this dead-end, Padagis pivots to argue that if the Court applies the well-established meaning of "consisting of," then the claims must be indefinite – the suggestion of course is that every time the Court encounters the "consisting of" phrase, it must necessarily conclude that the claims are indefinite.

The Federal Circuit has long established that where a skilled person would ordinarily associate impurities, residual solvents, and other incidental elements with components of a

composition, those elements are not excluded by the use of the transitional phrase “consisting of.” Such is the case here and there is no reason to depart from the law.

D. Defendant’s Sur-Reply Position

The parties agree that “consisting of” does not exclude impurities but does exclude additional ingredients. The dispute is whether certain elements—which the Asserted Patents expressly contemplated as ingredients and that applicants excluded during prosecution—should be classified as impurities. Neurelis asks the Court to characterize these elements by reference to extrinsic evidence—the Padagis ANDA, third-party certificates of analysis, and USP standards. But the proper inquiry is whether *in the context of the Asserted Patents* the elements are considered ingredients or impurities, and the answer is clear that they are ingredients.

Neurelis tries to distinguish ingredients from impurities by arguing the former must have “a functional purpose” and “be added intentionally.” These ingredients do have a function. The Asserted Patents makes clear and as Dr. Donovan testified—which Neurelis’s expert *did not even attempt to rebut*—the excluded elements are not mere impurities but rather potential ingredients of the carrier system that affect the performance of the alleged invention. The application of Neurelis’s position would thus come down to whether a party “intentionally” includes an element, but claim construction does not depend on an accused infringer’s intent; the question is whether an element affects the function of the formulation.

Instead, the characterization of an element as an “ingredient” or an “impurity” must be assessed in the context of the Asserted Patents themselves. Here, the specification makes clear that water and oil are ingredients, not impurities, by describing them as included in some embodiments and not others, in varying amounts, and by noting that their presence changes the performance of the formulations. An unavoidable impurity does not affect performance.

But even if these elements could be characterized as “impurities,” the applicants expressly excluded them from the scope of the claims during prosecution. They amended the claims and repeatedly relied on the absence of these ingredients (independent of whether the formulation was an emulsion) to distinguish the prior art and obtain allowance. The evidence here “amply” meets the standard for disclaimer, *see, e.g., Azurity Pharms., Inc. v. Alkem Laboratories. Ltd.*, 133 F.4th 1359 (Fed. Cir. 2025), and Neurelis should not be permitted to recapture surrendered claim scope.

Finally, if the Asserted Claims can include water, then the un rebutted testimony of Dr. Donovan establishes that they are indefinite. As Dr. Donovan explained, neither the specification nor outside sources, such as USP standards, provide sufficient guidance for a person of ordinary skill in the art to determine with reasonable certainty if water is permitted or how much qualifies as an impurity. *See, e.g.,* Donovan Decl. at ¶54. Neurelis’s expert did not provide any supplemental declaration directly responding to Dr. Donovan’s opinions. Therefore, Dr. Donovan’s opinions stand uncontroverted and establish that the Asserted Claims are indefinite if they include water.

II. TECHNICAL BACKGROUND AND THE ASSERTED PATENTS

A. Plaintiff’s Opening Position

1. Benzodiazepines for Treatment of Seizure Clusters

Benzodiazepines, including diazepam, are useful in preventing and treating seizures, including epileptic seizures. ’414 Patent,¹ 16:22-27. Administering drugs to a patient experiencing an active seizure is challenging. The Asserted Patents explain that benzodiazepine drugs can be

¹ U.S. Patent No. 11,241,414. Also asserted in this action are U.S. Patent Nos. 11,793,786 (the “’786 Patent”) and 8,895,546 (the “’546 Patent”). Collectively these are the “Asserted Patents.” The cited portions of the ’414 Patent’s specification are also disclosed in the ’786 and ’546 Patents. For ease of reference, citations in Neurelis’s sections herein are to the ’414 Patent unless otherwise specified.

administered orally, intravenously, or rectally – but each of these routes of administration has disadvantages. *Id.* at 1:52-2:9. Oral administration of a drug during a seizure is extremely difficult – and even unsafe – for both patient and caregiver. Even if one administers an oral dose of a benzodiazepine, its action is slow and a significant portion of it undergoes first-pass metabolism in the liver before it becomes systemically available, reducing potency. *Id.* at 1:52-62. Intravenous administration is impractical during an active seizure and requires the intercession of medical personnel in a clinical environment. *Id.* at 1:63-2:2. The inconvenience of suppository compositions is an obvious impediment to their administration, especially in public. *Id.* at 2:3-9.

A nasal delivery system allows for administration of drugs during a seizure without hospitalization or unnecessary discomfort, and bypasses the digestive system, improving bioavailability. *Id.* at 15:64-16:14. Given the proximity of the nasal mucosa, nasal administration also achieves faster penetration to the brain. *Id.* A problem in the art, however, was that “most benzodiazepines are so slightly soluble in water that a therapeutically effective amount cannot be dissolved in a volume of aqueous solvent that is amenable to application to a mucosal membrane.” *Id.* at 15:56-59; 1:47-51 (discussing “significantly limited” ability to formulate benzodiazepine drugs due to “solubility challenges”).

The inventors developed a novel carrier system to dissolve a high concentration of diazepam and thus enable the delivery of an effective amount of it via a nasal spray. *Id.* at 15:59-64. “The inventors [] found that Vitamin E can provide an effective carrier for” diazepam because it is reasonably soluble in Vitamin E and other tocopherols and tocotrienols (collectively “tocols”). *Id.* at 30:29-36. In addition to dissolving diazepam, tocols are highly tolerated by the nasal membranes. *Id.* at 30:34-36. But tocols, standing alone, are too viscous for a nasal spray. Consequently, when Vitamin E had been used as a carrier in the prior art, it was as a component

of suspensions and emulsions. *Id.* at 30:37-39. These had drawbacks. They were hard to create and to stabilize. *Id.* at 30:39-41. They left an oily residue. *Id.* at 30:41-42. Neurelis’s inventors discovered that the addition of alcohols, such as benzyl alcohol and ethanol, to Vitamin E maintained diazepam solubility while lowering the viscosity of the composition. *Id.* at 35:21-29. They further discovered that adding alkyl alcohols and alkyl glycols to the inventive solution, *inter alia*, counteracts the drawbacks of the Vitamin E carrier, such as unwanted oily residue. *Id.* at 30:42-46. The inventors also explored the use of absorption enhancers to improve the transit of the benzodiazepine drug across the nasal mucosa. *Id.* at 30:55-32:9. One such agent the inventors investigated and that is recited in the ’414 and ’786 Patent claims is n-dodecyl beta-D-maltoside.

Unlike prior art methods, Neurelis discovered how to leverage Vitamin E as a carrier without creating an emulsion, which is a two-phase mixture with an oil phase and an aqueous phase. *Id.* at 30:37-46 (distinguishing emulsions). Neurelis invented a nonaqueous, single-phase solution. *Id.*; *id.* at 4:15-19; *see also* Appx. Ex. 4 at Appx127-28. That is, Neurelis’s solution lacks an aqueous phase and an oil phase; if any trace water or “oil” is present, it is an impurity.

2. The Patents-in-Suit

The Asserted Patents are related family members claiming priority to a common U.S. Patent Application, No. 12/413,439 (“the ’439 Application”), filed March 27, 2009, which in turn claims priority to a provisional application (No. 61/040,558) filed March 27, 2008. The ’414 and ’786 Patents were filed as continuation applications in the ’439 Application chain and share a common specification. The ’414 and ’786 Patents claim pharmaceutical solutions for nasal delivery of diazepam. The ’546 Patent was filed as a continuation-in-part of the ’439 Application and its specification contains additional examples, experimental data, and formulations. The ’546 Patent claims pharmaceutical solutions for nasal delivery of a “benzodiazepine drug,” including diazepam. All the Asserted Patents’ claims are directed to pharmaceutical solutions, and not

method claims. The Asserted Patents disclose multiple embodiments of the inventive pharmaceutical solutions. *See* Appx. Ex. 5 at Appx131.

3. VALTOCO

VALTOCO is a foundational rescue medication for the treatment of epileptic seizures, and in particular, seizure clusters – intermittent, stereotypic episodes of frequent seizure activity that are distinct from a patient’s usual seizure pattern, and that may be experienced despite the use of daily anti-epileptic drugs. D.I. 1 at ¶ 20. Neurelis was formed in 2007 to pioneer treatments in the fields of epilepsy and psychiatry. Neurelis holds NDA No. N211635 for VALTOCO (diazepam nasal spray with 5mg, 7.5mg, or 10mg of diazepam per 0.1ml). *Id.* Since VALTOCO’s commercial launch in January 2020, VALTOCO has emerged as the market leader and fastest-growing acute intervention agent for seizure clusters.

4. Padagis’s ANDA and the Present Suit.

The Asserted Patents are listed in the FDA’s Orange Book in connection with Neurelis’s VALTOCO diazepam nasal spray drug product. *Id.* Following Padagis’s service of its Paragraph IV letter on March 26, 2024, Neurelis filed this case asserting infringement of the Asserted Patents on May 8, 2024. *Id.* A bench trial is set for February 9, 2026. D.I. 20.

B. Defendant’s Answering Position

1. The Asserted Patents Make Clear That Water is not an “Impurity” But Provide No Guidance About How Much Water Should be Included

The Asserted Claims all recite a pharmaceutical solution “consisting of” (a) a benzodiazepine drug (or diazepam, specifically); (b) one or more natural or synthetic tocopherols or tocotrienols (in some claims, limited to a specific list); (c) one or more alcohols (or in some cases, specifically at least benzyl alcohol, or specifically ethanol and benzyl alcohol); and (d) an alkyl glycoside (or n-dodecyl beta-D-maltoside, specifically). Water, oil, and other possible

ingredients—all of which are expressly discussed in the specification as potential components of a successful formulation—are not recited in the Asserted Claims.

According to the Asserted Patents, the components of the formulations are important because benzodiazepine formulations had “been significantly limited due, in many cases, to solubility challenges,” ’546 patent at 1:49-51,² and “most benzodiazepines are so slightly soluble in water that a therapeutically effective amount cannot be dissolved in a volume of aqueous solvent that is amenable to application to a mucosal membrane.” *Id.* at 18:50-53. Benzodiazepines can be difficult to dissolve in solution or to get into suspension, so “the components and concentrations within benzodiazepine formulations are critical to ensuring that the benzodiazepine is adequately solubilized and that the benzodiazepine can be effectively delivered to a patient.” Donovan Decl. at ¶27. The specification discloses countless alternatives. Embodiments can include a variety of active ingredients, tocopherols or tocotrienols, alcohols, and alkyl glycosides. *E.g.*, ’546 patent at 2:16-3:17. The embodiments can also include additional ingredients, including (a) other active ingredients; (b) enhancers; (c) excipients; or (d) any number of “agents” that could “adjust the pH, buffer the composition, prevent degradation, and improve appearance, odor, or taste.” *E.g.*, ’546 patent at 6:26-30.

The specification and claims do not consistently incorporate USP standards. In some instances, an ingredient is specifically described as USP-grade. ’546 patent at 7:26-28, 10:13-18, 37:65-66, 46:36-60, 47:19-48. In the rest of the dozens of columns that make up the specification, the Asserted Patents describe ingredients without any reference to grade. In some instances, some ingredients are expressly described as “free of water.” ’546 patent at 7:23-29 (specifying that

² Citations to the ’546 patent are exemplary as the same disclosures can be found in the ’414 and ’786 patents.

alcohol, glycol, or ethanol may be “dehydrated, USP”). In many other instances, these same ingredients are described without specifying what, if any, water content they may have. ’546 patent at 2:50-3:18, 10:10-14, 10:50-11:5, 15:31-42.

In some instances, the embodiments are “substantially free of water,” in which a variety of narrow ranges of water content are proposed. *E.g.*, ’546 patent at 11:24-12:30 (describing potential embodiments that have “less than about 1%, less than about 0.5%, less than about 0.25% or less than about 0.1% water”). In other embodiments, water is expressly mentioned as a possible ingredient. *E.g.*, ’546 patent at 7:6-7 (“In some such embodiments, the composition further comprises water”), 12:40-43 (“In some embodiments, a carrier system in such a composition includes water. In some embodiments, such a liquid carrier system contains water and one or more excipients”), 12:56-14:43 (describing numerous possible embodiments expressly including water).

The Asserted Patents disclose a handful of specific examples. In some of the examples, “diazepam” and “ethanol” (without reference to USP-grade or amount of water) are listed ingredients. ’546 patent at 45:40-46:23. In other examples, “diazepam USP” and “dehydrated ethanol USP” are particularly identified. ’546 patent at 46:24-47:48. Some examples do not include water as an additional ingredient, while others do. *E.g.*, ’546 patent at 58:1-59:7. Although both versions “were found to be well-tolerated,” ’546 patent at 60:13-15, they produced significantly different pharmacokinetic results. ’546 patent at Table 11-3 (formulation having water had 50% longer $T_{\max}$ and approximately 50% higher AUC).

The specification thus demonstrates that the applicants deliberately contemplate specific components, amounts, combinations, and grades for use in potential formulations. When drafting claims, they were keenly aware of what formulations and constituents could be included. The

express recitation of some of these ingredients, while omitting others, reflects a deliberate choice to not include the unrecited constituents.

Thus, although the Asserted Claims recite only four specific types of ingredients, the specification of the Asserted Patents is much broader. Donovan Decl. at ¶¶28-35. A wide variety of other possible ingredients are contemplated. Donovan Decl. at ¶30. Among them, expressly considered and even incorporated into some examples, is water. Donovan Decl. at ¶31-34. Thus, water is not merely an impurity, but a potential component of the carrier system that is related to the invention. *E.g.*, Donovan Decl. at ¶35, 49. Whether and how much a specific ingredient is used in a particular formulation is a reflection of intentional design choices. Donovan Decl. at ¶30. Given the “solubility challenges” of benzodiazepines, altering the ingredients or their relative amounts can significantly affect the suitability of a formulation. Donovan Decl. at ¶30; *see also* ’546 patent at 1:49-51, 18:50-53, Table 11-3. The specification does not, however, include sufficient teachings for a POSA to understand how the potential inclusion of some amount of additional ingredient will ultimately affect the formulation’s performance. *See* Donovan Decl. at ¶¶50-57.

2. The Prosecution History of the Asserted Patents

a. Relationships of the Asserted Patents to Each Other

The ’546 patent is the earliest filed of the Asserted Patents, having been filed on June 13, 2012, as Application No. 13/495,942. The ’546 patent claims priority as a continuation-in-part of Application No. 12/431,439, filed on March 27, 2009, which claims priority to Provisional Application No. 61/497,017, filed June 14, 2011, and Provisional Application No. 61/570,110, filed on December 13, 2011. The ’546 patent issued on November 25, 2014.

The '414 patent was filed on May 27, 2021, as Application No. 17/332,800. The '414 patent does not claim priority directly to the '546 patent, but among its parent applications is Application No. 12/431,439. The '414 patent issued on February 8, 2022.

The '786 patent was filed on April 12, 2021, as Application No. 17,228,514. The '786 patent also does not claim priority directly to the '546 patent, but among its parent applications is Application No. 12/431,439. The '786 patent issued on October 24, 2023.

b. Prosecution of the '439 Application

All of the Asserted Patents claim priority through a lineage that includes the '439 Application. The original claims of the '439 Application recited a pharmaceutical composition for nasal administration (or a method treating a patient with such a composition) “*comprising* a benzodiazepine drug, one or more natural or synthetic tocopherols or tocotrienols, or any combinations thereof, in an amount from about 30% to about 95% (w/w), and one or more alcohols or glycols, or any combinations thereof, in an amount of about 10% to about 70% (w/w).”³ Appx376. On December 8, 2010, the PTO issued a restriction requirement directing the applicants to elect either the pharmaceutical composition or the method of treating a patient with the composition, and to further elect single species for the categories of listed components. Appx405. On January 5, 2011, the applicants elected the method of treatment claims and further elected claims directed to diazepam, vitamin E (alpha tocopherol), benzyl alcohol, and an alkyl glycoside. Appx418-419.

On March 18, 2011, the PTO issued a non-final office action rejecting the elected claims as, among other things, obvious in view of teachings of tocopherol compositions to deliver biologically active agents that are sparingly soluble in water, such as diazepam, and the use of

³ Emphasis added throughout unless otherwise indicated.

absorption enhancers such as alkyl glycoside. Appx391-395. On September 19, 2011, the applicants responded to the office action by amending the claims to require that the pharmaceutical composition be a “solution” and that it be “consisting of” the specifically listed ingredients. Appx249. Thus, the applicants surrendered the broader claim scope originally encompassed by the open-ended “comprising” language.

In remarks accompanying the amendment, the applicants emphasized the significance of the amendments as they related to the obviousness rejection. Specifically, the applicants argued “the solution recited in claim 20 ***consists of*** a benzodiazepine drug, one or more natural or synthetic tocopherols or tocotrienols, one or more alcohols or glycols and optionally one or more alkyl glycosides.” Appx257. The applicants continued: “In other words, the recited solution contains: each of a benzodiazepine drug; one or more tocopherols or tocotrienols; one or more alcohols or glycols; and optionally one or more alkylglycosides; ***and the solution excludes anything else.***” *Id.* The applicants concluded: “In particular, ***the solution excludes water and oil.***” *Id.* These statements confirm the plain and ordinary meaning of the transitional phrase would not include ingredients like water and oil.

To distinguish the proposed claims from the cited prior art, the applicants argued that the prior art “teaches specific benzodiazepine formulations” that “each describe an oil-in-water emulsion of the benzodiazepine.” Appx258. The applicants insisted that “[s]uch emulsions are specifically excluded from the instant claims, which recite solutions (not emulsions) and ***exclude any ingredients (such as water and oil) not included within the group of benzodiazepine drugs, tocopherols or tocotrienols, alcohols or glycols, and optionally alkylglycosides*** [sic].” *Id.*

The applicants reiterated the intended narrowness of the claims in a November 19, 2014 response to office action. Again seeking to overcome an obviousness rejection, the applicants

argued that “[t]he recited nasal solution *consists of* each: a benzodiazepine drug; one or more tocopherols or tocotrienols; one or more alcohols or glycols; and one or more alkylglycosides, each in specific proportions.” Appx272. Consequently, the applicants argued, “[t]he solution excludes anything else, including water and oil.” *Id.*

The applicants were clear that this significance was not limited to distinguishing the claimed compositions from the prior art’s *emulsions*. To the contrary, the applicants explained that “the instant claims require solutions, and thus specifically exclude Sonne’s emulsions. The instant claims *also recite* specific ingredients, while excluding others through the recitation of ‘consisting of’ language. *In particular, both water and oil are excluded from the instant claims*, as they are not one of the recited ingredients.” *Id.*; *see also* Appx273 (again attempting to distinguish the claims both because they “recite solutions (not emulsions)” *and* because they “exclude *any ingredients* (such as water and oil) not included within the group” of expressly recited elements). Thus, the applicants disclaimed not only emulsions, but the inclusion of other ingredients, such as water and oil, in the composition.

Although the parent ’439 Application never issued, this amendment and the applicants’ accompany arguments remained material to issuance of the Asserted Patents. *See* Appx401 (in reasons for allowance for the ’414 patent: “The prior art does not reasonably teach or suggest the recited combination of components while excluding all non-recited components as required by the ‘consisting of’ transitional phrase”); Appx468 (in last response to office action prior to allowance, arguing yet again that “the pending claims exclude such additional ingredients as water, poloxamer and benzalkonium chloride, which [the prior art] teaches.”). Moreover, the applicants’ subsequent prosecution of an additional patent in the same family, to expressly permit the inclusion of water, serves to underscore that even they viewed the earlier patents as not open to it. *See* Appx420, U.S.

Patent No. 12,268,664 (a continuation of the '786 patent, which recites in its independent claim “wherein the pharmaceutical composition is a solution and contains less than 1% water”).

III. LEVEL OF ORDINARY SKILL IN THE ART

A. Plaintiff’s Opening Position

Given that the claim term at issue is so entrenched in patent law, however the person of ordinary skill in the art is defined should not alter the analysis as to how that phrase should be interpreted. Indeed, the phrase “consisting of,” should be understood as the Federal Circuit has explained in *Conoco*. 460 F.3d at 1360 (“We have explained that ‘consisting of’ does not exclude additional components or steps that are unrelated to the invention.”). Regardless of the field of art to which the subject patent belongs, the phrase “consisting of,” has a well-established, well-understood meaning.

To the extent that the Court needs reference to a person of ordinary skill for purposes of understanding the “consisting of” language in the context of the asserted claims, Neurelis submits that the skilled artisan holds a Master’s degree with many years of experience, or a Ph.D or Pharm.D degree with several years of experience or its equivalent experience in the field of pharmaceutical research and development. The skilled artisan would have knowledge of benzodiazepine structure and function, including physiochemical characteristics of benzodiazepines generally. The skilled artisan would further have knowledge and practical experience developing and working with intranasal formulations, including knowledge of the physiology and anatomy of the nasal cavity and methods of administering drugs intranasally. The skilled artisan also would have knowledge concerning clinical aspects of bioavailability, tolerability, and patient acceptability of intranasal formulations and the difficulty of administering drugs by other routes during an event like a seizure. *See McConville Decl.* at ¶¶ 11-16.

B. Defendant's Answering Position

A POSA as to Asserted Patents would have been a pharmaceutical chemist, chemist, or biologist involved in the research and development of pharmaceutical formulations and/or delivery, and would have at least a Bachelor's degree with at least 5 years of experience, or a Master's, Ph.D. or Pharm.D. degree with several years of experience. A POSA would have had knowledge of benzodiazepine structure and function, and would further have knowledge and practical experience working with intranasal and transmembrane formulations, including knowledge of the physiology and anatomy of the nasal cavity, with relevant experience in developing intranasal formulations. A POSA is considered to be aware of all relevant prior art, and would have had the capability to draw inferences from the references, including combining the references and then drawing additional inferences from the combined teachings.

Neurelis argues that a person of ordinary skill in the art (POSA) "holds a Master's degree with many years of experience, or a Ph.D. or Pharm.D degree with several years of experience or its equivalent experience in the field of pharmaceutical research and development. The skilled artisan would have knowledge of benzodiazepine structure and function, including physicochemical characteristics of benzodiazepines generally, and would further have knowledge and practical experience developing and working with intranasal formulations, including knowledge of the physiology and anatomy of the nasal cavity and methods of administering drugs intranasally. The skilled artisan also would have knowledge concerning clinical aspects of bioavailability, tolerability, and patient acceptability of intranasal formulations and the difficulty of administering drugs by other routes during an event like a seizure." *Supra* Section III.A at 15, McConville Decl. at ¶6.

The definition of a POSA provided by Padagis is identical to the definition of a POSA adopted by the PTAB in IPR2019-00451 related to U.S. Patent No. 9,763,876 (“the ’876 patent”).⁴ The ’876 patent is a continuation of the ’546 patent (one of the Asserted Patents), claims priority to the same ’439 application as the ’414 and ’786 patents (the other two Asserted Patents), and includes claims that are very similar, if not identical, to those found in the Asserted Patents. Consequently, Padagis’ definition of a POSA should be adopted in this case. However, this brief is supported by the declaration of Dr. Maureen Donovan, Ph.D., who qualifies as a POSA under either definition.

IV. LEGAL STANDARDS

A. Plaintiff’s Opening Position

1. Claim Construction Standards

The Court is very experienced with the general legal standards governing claim construction, which are incorporated by reference here. *See, e.g., Gilead Sciences, Inc. v. Lupin Ltd. et al.*, C.A. No. 22-615-MN, D.I. 280 at 2-4 (Memorandum Order dated February 21, 2025); *Rex Computing Sys., Inc. v. Cerebras Systems Inc.*, C.A. No. 21-525-MN, D.I. 288 at 2-4 (Memorandum Order dated January 21, 2025).

2. The Legal Meaning of the “Consisting Of” Transitional Phrase.

Important to the present dispute, transitional phrases such as “consisting of” are “terms of art in patent law that ‘define the scope of the claim[.]’” *Conoco Inc.*, 460 F.3d at 1360 (citing MPEP § 2111.03) (further citations omitted). “Consisting of” is a term that “signifies restriction and exclusion of unrecited *steps or components*” from the scope of the claim. *Id.* (emphasis

⁴ In the Final Written Decision in IPR2019-00451, the PTAB found all claims of the ’876 patent invalid over the prior art.

added). Nevertheless, “[a]lthough ‘consisting of’ is a term of restriction, the restriction is not absolute.” *Id.* The Federal Circuit has “explained that ‘consisting of’ does *not* exclude additional components or steps that are *unrelated to the invention*.” *Id.* (emphasis added). “Similarly, impurities that a person of ordinary skill in the relevant art would ordinarily associate with a component on the ‘consisting of’ list” are considered to be within the claim scope. *Id.* at 1360-61 (citing *Phillips v. AEH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005)). That is, “impurities normally associated with the component of the claimed invention are implicitly adopted by the ordinary meaning of the claims themselves.” *Id.* at 1361. Whether a defendant characterizes an added component as an “impurity” does not change its status as an “impurity ordinarily associated therewith.” *Id.* at 1360 (citing *Ex parte Davis*, 80 U.S.P.Q. 448, 450 (Pat. Office Bd. App. 1948)).

What exactly is limited by the “consisting of” phrase – more specifically, what impurities “a person of ordinary skill in the art would ordinarily associate with a component on the ‘consisting of’ list” – is thus not a matter of claim construction but a question of fact for the Court to determine at trial. *Id.*; *Norian Corp. v. Stryker Corp.*, 363 F.3d 1321, 1331-32 (Fed. Cir. 2004). The presence of ordinarily-associated impurities in an accused product does not render the product noninfringing.

B. Defendant’s Answering Position

1. The “Consisting of” Transitional Phrase

“[T]he transitional phrase ... ‘consisting of,’ is a term of art in patent law with a distinct and well-established meaning.” *Multilayer Stretch Cling Film Holdings, Inc. v. Berry Plastics Corp.*, 831 F.3d 1350, 1358 (Fed. Cir. 2016). It is “understood to exclude any elements, steps, or ingredients not specified in the claim.” *AFG Indus., Inc. v. Cardinal IG Co., Inc.*, 239 F.3d 1239, 1245 (Fed. Cir. 2001); *see also In re Gray*, 53 F.2d 520, 521 (C.C.P.A. 1931) (claim that recites a mixture that “consists” of silver and indium is limited “to an alloy of silver and indium without

other elements.”). “In simple terms, a drafter uses the phrase ‘consisting of’ to mean ‘I claim what follows and nothing else.’” *Vehicular Techs. Corp. v. Titan Wheel Int’l, Inc.*, 212 F.3d 1377, 1383 (Fed. Cir. 2000).

“Although ‘consisting of’ is a term of restriction, the restriction is not absolute.” *Conoco, Inc. v. Energy & Env’tl. Int’l, L.C.*, 460 F.3d 1349, 1360 (Fed. Cir. 2006). But “the case law exceptions to the terms’ absolute exclusion are narrow—the Federal Circuit has only mentioned impurities or aspects truly unrelated to the invention.” *Shire Dev. Inc. v. Cadila Healthcare Ltd.*, No. CV 10-581 (KAJ), 2015 WL 4596410, at *7 (D. Del. July 28, 2015). The exception only applies to “aspects *unrelated* to the invention. It is thus necessary to determine what is limited by the ‘consisting of’ phrase.” *Norian Corp. v. Stryker Corp.*, 363 F.3d 1321, 1331 (Fed. Cir. 2004) (emphasis added).

2. Indefiniteness

35 U.S.C. § 112(b) requires a patent applicant to distinctly claim the invention with particularity and definiteness. “The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, e.g., competitors of the patent owner, can determine whether or not they infringe.” *All Dental Prodx, LLC v. Advantage Dental Prods., Inc.*, 309 F.3d 774, 779–80 (Fed. Cir. 2002).

“[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). “[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 2129 (quotations and citations omitted).

“Indefiniteness is a matter of claim construction, and the same principles that generally govern claim construction are applicable to determining whether allegedly indefinite claim language is subject to construction.” *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008), abrogated on other grounds by *Nautilus*, 572 U.S. at 901. The analysis to determine if a claim is invalid for indefiniteness examines the claims, specification, and prosecution history “to ascertain if they convey to one of skill in the art with reasonable certainty the scope of the invention claimed.” *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1341 (Fed. Cir. 2015).

V. DISPUTED CONSTRUCTIONS

Term	Neurelis’s Position	Padagis’s Construction
A pharmaceutical solution for nasal administration consisting of	No construction necessary; the scope of “consisting of” is established by law.	“a pharmaceutical solution for nasal administration containing only those elements set forth in the claim and excluding anything else, particularly excluding water and oil” Otherwise indefinite.

VI. ARGUMENT

A. Plaintiff’s Opening Position

The parties dispute whether [REDACTED]. As set forth in its noninfringement contentions, Padagis asserts that “[REDACTED]” See Appx. Ex. 8 at Appx164. [REDACTED]. See Appx. Ex. 7 at Appx146-47, 150; Appx. Ex. 21 at Appx311. [REDACTED].

To advance this tenuous argument, Padagis must conjure a new interpretation of the phrase “consisting of” that excludes the presence of any impurities or residual solvents, and “particularly [] water and oil.” But that interpretation is contrary to the law and there no basis to construe the “consisting of” term differently from how the law requires.

1. “Consisting Of” Does Not Need Construction

The transitional phrase “consisting of” is a “term of art in patent law that ‘define[s] the scope of the claim with respect to what unrecited additional components or steps, if any, are excluded from the scope of the claim.’” *Conoco Inc.*, 460 F.3d at 1360 (*citing*, MPEP § 2111.03; *Vehicular Techs. Corp. v. Titan Wheel Int’l, Inc.*, 212 F.3d 1377, 1382-83 (Fed. Cir. 2000)). “Although ‘consisting of’ is a term of restriction, the restriction *is not absolute*. The Patent Board of Appeals has interpreted ‘consisting of’ to ‘close[] the claim to the inclusion of materials other than those recited *except for impurities ordinarily associated therewith*.’” *Id.* (emphasis added) (*citing Ex parte Davis*, 80 U.S.P.Q. at 450).

Like Padagis here, the defendant in *Conoco* (EEI) argued that the patentee’s use of “consisting of” limited the scope of the patent to the specifically recited components “and nothing else.” *Id.* (compare Padagis’s construction as “excluding anything else”). The claims in *Conoco* covered a lubricating suspension that included a suspension material “consisting of . . . water-alcohol mixtures.” *Id.* at 1353. EEI argued that the presence of MIBK (a common impurity in industrial alcohols added to avoid excise taxes) precluded a finding of infringement given that MIBK was not one of the claimed elements. *Id.* at 1359. Following a judgment that it infringed, EEI argued that the Federal Circuit must review the term “consisting of . . . *de novo*.” *Id.* The Federal Circuit flatly rejected that invitation and explained, “[b]ecause ‘consisting of’ is a term of art in patent law with its own construction . . . *we will apply that legal construction* . . . and review

the court’s infringement analysis for clear error.” *Id.* (emphasis added). The same principle applies here and there is no reason for this Court to deviate from the Federal Circuit’s approach.

Moreover, the Asserted Patents’ specification belies any argument that the inventors redefined the meaning of “consisting of” differently from what the law provides. In the common specification for the Asserted Patents, the inventors set forth a number of “Definitions” to be applied to the disclosed invention. ’414 Patent, 14:22, *et seq.* The inventors specifically explained, “[a]s used herein, the term ‘consisting of’ is a transitional phrase used in a claim to indicate that the claimed invention includes only those *elements* set forth in the claim.” *Id.* at 15:31-33 (emphases added). The inventors thus provided specific notice to the public that they intended to apply the conventional meaning of “consisting of,” to the claims of the Asserted Patents. As the Federal Circuit has made clear, “[a] patentee can act as his own lexicographer, but, to do so, ‘a patentee [1] must clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning’ and [2] must ‘clearly express an intent to redefine the term.’” *Cadence Pharms. Inc. v. Exela PharmSci Inc.*, 780 F.3d 1364, 1369 (Fed. Cir. 2015) (citing *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014)). There is no evidence in the specification that the patentees here sought to “clearly redefine” the transitional phrase to give “consisting of,” some new meaning. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995); *Merck & Co., Inc. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1370 (Fed. Cir. 2005).

“Consisting of” is a term of art in patent law with its own construction. There has been no lexicography and there is no need for claim construction in this case.

2. “Consisting Of” Does Not Foreclose Additional Substances in the Claimed “Pharmaceutical Solution.”

As the Federal Circuit has explained, the phrase “‘consisting of’ does not exclude additional components or steps that are unrelated to the invention.” *Conoco Inc.*, 460 F.3d at 1360

(“while ‘consisting of’ limits the claimed invention, it does not limit aspects unrelated to the invention.”) (citing *Norian Corp.*, 363 F.3d at 1331-32). In the context of biopharmaceuticals, “impurities that a person of ordinary skill in the relevant art would ordinarily associate with a component on the ‘consisting of’ list do not exclude the accused product or process from infringement.” *Id.* “[I]mpurities normally associated with the component of a claimed invention are implicitly adopted by the ordinary meaning of the components themselves.” *Id.* at 1361 (emphasis added) (“The ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art”) (citing *Phillips*, 415 F.3d at 1312-13).

Thus, while the claims of the Asserted Patents recite pharmaceutical solutions “consisting of” several specific ingredients (*e.g.*, diazepam, Vitamin E, ethanol, benzyl alcohol, and n-dodecyl beta-D-maltoside (*see, e.g.*, ’414 Patent, Claim 1), they do not, as a matter of law, exclude the presence of impurities normally associated with those components. *See, Conoco Inc.*, 460 F.3d at 1360-61; *see also Otsuka Pharm. Co. v. Lupin Ltd.*, 2022 WL 2952759 at *4 (D. Del. July 26, 2022) (“the presence of impurities is ‘implicit[]’ in the ordinary meaning of the recited components”).

Here, Padagis contends that [REDACTED]

[REDACTED] preclude a finding of infringement because they are not listed as ingredients in the “consisting of” claims. Residual solvents are substances that are byproducts of the manufacturing process that remain in the final solution after having been used during manufacture. They are reported separately from other impurities on Certificates of Analysis. McConville Decl., at ¶ 34. A skilled artisan at the priority date would have understood that residual solvents are a

type of “impurity ordinarily associated” with the components of the claimed invention. *Conoco Inc.*, 460 F.3d at 1360; McConville Decl. at ¶ 35. Likewise, a skilled artisan would have expected that small amounts of water may also be present in the manufacturing process due to its use as a solvent or due to ubiquitous water vapor present in the air. McConville Decl. at ¶¶ 34-36.

The analysis and legal authorities highlight that the legal meaning of the term “consisting of” does not foreclose even the *intentional* inclusion of additional components in the claimed invention – let alone trace and incidental impurities – that are “normally associated with the component of a claimed invention.” *Conoco Inc.*, 460 F.3d at 1360-61 (intentional inclusion of MIBK in component did not excuse accused product from infringing). Moreover, as described in more detail below, the intrinsic evidence demonstrates that the patentees intended to include additional components unrelated to the claimed invention.

3. Intrinsic Evidence Establishes That the Claimed Pharmaceutical Solutions Include Water, Residual Solvents and Other Impurities.

a. The Claims Explicitly Recite Alcohols That Normally Include Water

In many instances, the inventors broadly claimed alcohols without requiring any specific level of purity. For example, claims 1 and 11 of the '786 patent, are drawn to the broadest such genus, “one or more alcohols.” '786 Patent, Claim 1, 11. Claim 17 of the '546 patent recites “ethanol” as a specific type of alcohol. In contrast, claim 18 of the same patent claims a distinct species of ethanol: “dehydrated ethanol.” '546 Patent, Claim 18. A POSA reviewing the claims would readily understand the distinction between “ethanol,” and “dehydrated ethanol.” “Ethanol” is not specific to the purity of ethanol, while “dehydrated” ethanol requires a prescribed minimum purity of ethanol. *See* McConville Decl. at ¶ 38. Both include various impurities, including water.

The USP contains entries for “alcohol” (meaning ethanol) and “dehydrated alcohol.” *See* Appx. Ex. 10 at Appx199-98, 203-04. The entry for “alcohol” requires “not less than 92.3 percent and not more than 93.8 percent, by weight” of ethanol – meaning the remaining percentage can be other components and the substance may still be called “alcohol” (or ethanol). *Id.* at Appx198, 203. The entry for “dehydrated alcohol,” requires that it “contain[] not less than 99.2 percent, by weight, corresponding to not less than 99.5 percent, by volume, at 15.56°, of [ethanol].” *See* Appx. Ex. 10 at Appx199, 204. The remainder of these compositions is made up of other components, specifically including water.

Water can be present from a variety of sources: it can be absorbed from the atmosphere during the drug manufacturing processes, or through exposure to air post-formulation, and it can be a degradation product of alcohols. McConville Decl. at ¶ 38. But predominantly the presence of water in ethanol largely results from the fact that most ethanol – whether for industrial recreational use – is synthesized by fermentation by yeast in water. *Id.* at ¶ 40. While “dehydrated ethanol” has less water present than “ethanol,” a skilled artisan would understand that water is never eliminated completely and there is always *some* trace amount of water present. *See id.* at ¶ 38; *see also* Appx. Ex. 20 at Appx305 (listing absolute ethyl alcohol as containing 0.2% water).

The ’414 and ’546 patents specifically claim the use of “benzyl alcohol” and “ethanol” in combination (*e.g.*, claims 1 and 11). The claimed “benzyl alcohol” is never described in the specification with reference to the USP. *See* ’414 Patent, 2:67; 4:37; 7:3; 12:31; 30:49. But the USP provides that “Benzyl Alcohol contains not less than 98.0 percent and not more than 100.5 percent of C₇H₈O [phenylmethanol].” *See* Appx. Ex. 18 at Appx289; Appx. Ex. 19 at Appx295. As with ethanol and dehydrated ethanol, a skilled artisan would readily understand that there is always some trace water present in benzyl alcohol. *See* McConville Decl. at ¶ 41.

The foregoing claims of the Asserted Patents make clear that the “consisting of” list of components in the claimed pharmaceutical solutions may include water at various levels depending upon the type of alcohol used. The use of “consisting of,” does not preclude or eliminate the presence of water in the claimed inventions.

b. The Specification Describes Alternative Embodiments Containing “Ethanol” or “Dehydrated Ethanol”

As the specification discloses, the pharmaceutical solutions of the Asserted Patents are made with ingredients that a skilled artisan would understand contain some amount of water impurities and residual solvents. Water impurity is inherent to the alcohols utilized as ingredients to the drug product. *Id.* at ¶ 36. The pharmaceutical solutions claimed in the Asserted Patents, in turn, contain at least 10% by weight, and up to 70% by weight, of one or more alcohols, such as ethanol and benzyl alcohol ('414 and '546 patents) or benzyl alcohol with another alcohol ('786 patent). *See* '414 Patent, 2:65-3:1, 4:35-38; 7:1-4; 12:29-32; 30:47-50. Accordingly, in the specification the inventors frequently described “ethanol” as an alcohol to be used without reference to its level of purity. *Id.* at 4:35-38; 7:1-4; 7:59-60; 12:29-32; *see also* 30:47-50 (lower alkyl alcohols). Even where the specification describes embodiments in which the alcohol is “free of water,” those embodiments will still contain some minimal amounts of water (as an impurity), even when described as “dehydrated, USP.” *Id.* 4:42-44; 7:4-5 (ethanol). Thus, by implication, other embodiments lacking this specification would permit even *higher* levels of water.

For example, in Examples 1, 2 and 4, “ethanol” was used to formulate the composition, while “dehydrated ethanol USP” was used in Example 3. *Compare* '414 Patent, Tables 1-1, 2-1, 4-1 *with* 43:1-14 (Example 3) and Table 3-1. Accompanying Example 3, the inventors disclose that “[a]dditional solutions of diazepam at varying concentrations are made in a similar manner, by varying the amount of diazepam and the relative amounts of Vitamin E and *ethanol*”—not

citing the USP grade ethanol, and thus allowing ethanol of other grades containing a water content that is higher than that found in “dehydrated” ethanol. ’414 Patent, 43:15-25 (emphasis added).

The specification further states that the claimed solution, wherein the benzodiazepine is “fully dissolved” in a solvent system containing tocols and alcohols, is “substantially free of water.” *Id.* at 8:17-24. The specification then defines “substantially free of water” not as *zero*, but rather as “indicat[ing] that the solution contains less than about 1%, less than about 0.5%, less than about 0.25% or less than about 0.1% water.” *Id.* at 8:18- 9:23. The patent does *not* say the claimed solutions contain absolutely no water.

As the specification reflects, alcohols contain some water as an impurity. *See McConville Decl.* at ¶ 39. The (cited) USP reflects that reality known to persons of ordinary skill in the art and allows for it within the context of the “consisting of” claim. Non-USP grade alcohols simply may contain more water than others. *Id.* at ¶¶ 40-41. A skilled artisan appreciates that it is not possible to synthesize a 100.00% impurity-free alcohol. *Id.* at ¶ 42.

The intrinsic record also reflects the understanding in the art that all chemical ingredients will contain other impurities, such as residual solvents. More specifically, Tables 5-4 and 5-5 provide the chemical analysis of Solutions 00 and 02 from Example 3. ’414 Patent, 44:30-31. Example 3 describes a 70 mg/ml diazepam solution with Vitamin E at 65% (Solution 00) or 80% (Solution 02) concentration (mg/ml). *Id.* at 43:15-25 (Table 3-1). These solutions each contain some quantity of other substances, some of which are identified (*e.g.*, nordiazepam, Compound A,

Compound B, between 0.002-0.01% of the finished testing product), and some of which (*e.g.*, residual solvents) are not identified.⁵ *Id.* at Cols. 45-48 (Tables 5-4 and 5-5).

In sum, the claims and specification are replete with references to impurities. A skilled artisan would have understood that it is not possible to formulate a 100% impurity-free pharmaceutical solution, in part because it is impossible to formulate 100% impurity-free ingredients. *See* McConville Decl. at ¶¶ 40-43. Nevertheless, Padagis seeks to limit the claims to implausible zero-impurity solutions (Padagis’s proposed construction requires “excluding anything else”). Although the pharmaceutical solutions” claimed by the Asserted Patents are closed to additional ingredients, they are not closed to incidental substances like impurities a skilled artisan “would ordinarily associate” with the ingredients, or that are “unrelated to the invention.” *See Conoco Inc.*, 460 F.3d at 1360; *Norian Corp.*, 363 F.3d at 1331-32. The claimed pharmaceutical solution includes the impurities inherent to its ingredients. McConville Decl. at ¶¶ 38-39. These are encompassed within the ordinary meaning of the claims. *Conoco Inc.*, 460 F.3d at 1360-61 (citations omitted); *Otsuka Pharm. Co.*, 2022 WL 2952759 at *4.

4. Neurelis Did Not Disclaim Water, Residual Solvents, or Other Impurities That Would Ordinarily Be Associated with the Components of the Claimed Solutions

Padagis’s proposed construction that “consisting of,” exclude any chemical compound not specifically listed, “particularly excluding water and oil,” suggests a fundamental misunderstanding of both the “consisting of” law and the relevant prosecution: specifically,

⁵ These quality tests are tested against a baseline. A skilled artisan understands that there is no further need to identify and differentiate the compositions of the trace impurities, including residual solvents, in this context. *See* McConville Decl. at ¶ 44.

statements made by Neurelis in overcoming a Section 103 rejection based on U.S. Patent No. 6,193,985 (“Sonne”).

As discussed above, Neurelis’s novel drug product is a pharmaceutical solution. While it includes tocols and alcohols as solvents, those solvents are miscible in each other – meaning, they mix together without separating into layers. McConville Decl. at ¶ 45. The claimed pharmaceutical solution is thus *a single-phase solution* and not an emulsion, such as those the prior art describes. See ’414 Patent at 30:37-46 (distinguishing emulsions); *see also id.* at 4:15-19; *see also, e.g.*, Appx. Ex. 4 at Appx127-28. This issue was addressed during prosecution of the underlying ’439 application, when the Examiner rejected the pending claims as obvious in view of Sonne. See Appx. Ex. 14 at Appx240-44.

Sonne taught emulsions of separate water and oil phases; not a single-phase solution. See Appx. Ex. 15 at Appx258-59. According to Sonne, to form such a composition, substantial amounts of both water and an oil component must be included – so much so that they will visibly separate into layers, like a vinaigrette. McConville Decl. at ¶ 46. As argued during prosecution, Sonne taught that a “high concentration of oil phase is required for nasal administration,” in addition to an explicit and substantial water phase. See Appx. Ex. 15 at Appx258. In disclosing such a composition, “Sonne is teaching away from nasal administration of compositions that contain no oil whatsoever,” which was “underscored by the fact that none of Sonne’s examples is drawn to a nasally-administered solution consisting of sparingly water soluble active [ingredient], tocopherol or tocotrienol, alcohol or glycol and optionally an alkyl glycoside.” *Id.* at Appx258-59. Thus, a skilled artisan would reasonably infer from Sonne that “nasal formulations should be oil-in-water formulations, with a high concentration of oil.” *Id.* at Appx259. In stark contrast,

Neurelis’s claimed invention “excludes water and oil” – that is, *it is not an emulsion* and it does not contain substantial amounts of either ingredient. *Id.* at Appx257.

The Examiner did not disagree, but continued to reject Neurelis’s solution over the oil-in-water emulsions of Sonne on the basis that the claims were directed to a method “comprising” its administration, which could include “additional steps . . . for example, administration of an oil or water phase” not articulated in the claims. *See* Appx. Ex. 4 at Appx128. The response to this rejection stressed that “the instant claims require solutions, and thus specifically exclude Sonne’s emulsions. The instant claims also recite specific ingredients while excluding others through the recitation of the ‘consisting of’ language. In particular, both water and oil are excluded from the instant claims, *as they are not one of the recited ingredients.*” *See* Appx. Ex. 16 at Appx272 (emphasis added).

Importantly, in making these very points, the applicant specifically referred to and relied on MPEP § 2111.03. That section, in turn (both at that time and today), specifically cited *Ex parte Davis*, which states that “consisting of . . . clos[es] the claim to the inclusion of materials other than those recited *except for impurities ordinarily associated therewith.*” 80 U.S.P.Q. at 450. That section also specifically cites *Norian*, which holds that “consisting of” does not limit aspects unrelated to the invention. *Norian*, 363 F.3d 1331-32. The Federal Circuit relied on both in *Conoco*. 460 F.3d at 1360. Neurelis, thus, adopted the very legal interpretation during prosecution that Neurelis contends controls this dispute today, and that Padagis denies is controlling.

The prosecution makes clear that while Neurelis distinguished oil-in-water emulsions, and oil and water as *ingredients*, Neurelis had no reason to and did not exclude the presence of all *impurities* in any of its ingredients of the claimed solutions. Unlike Sonne, Neurelis never claimed oil or water (or anything else) as separate ingredients of the pharmaceutical solution. Neurelis’s

responses to the Examiner simply clarified that point. Thus, the claims were amended to a method “consisting of” administering the solution “consisting of” the ingredients claimed all along. *See* Appx. Ex. 17 at Appx277.

Padagis misconstrues the foregoing prosecution to engineer an argument that Neurelis somehow limited its “consisting of” claims to the ingredients and nothing else, “particularly excluding water and oil.” Neurelis did no such thing. On the contrary, Neurelis confirmed that the only thing it was excluding from the scope of its invention was an “oil and water” emulsion as described in Sonne.

Neurelis’s statements in prosecution, thus, stand in contrast to the facts in *Azurity Pharms., Inc. v. Alkem Laboratories Ltd.*, 133 F.4th 1359 (Fed. Cir. 2025). There, the patentee adopted the “consisting of” transition specifically to narrow the claims to **exclude** propylene glycol from the scope of the invention because it was disclosed as a functional component of a prior art composition. *Id.* at 1367. After several rounds of rejections where the patentee explained that the claimed solutions do not have propylene glycol, the patentee changed the transitional phrase from “comprising” to “consisting of.” *Id.* Accordingly, the Federal Circuit concluded that the patentee “clearly and unmistakably distinguished its invention from [the prior art reference] by asserting that the claimed formulations did not contain propylene glycol,” and as a result, the ANDA product containing propylene glycol – as a functional component – did not infringe. *Id.* at 1367-70.

Unlike the patentee in *Azurity*, Neurelis never claimed “water and oil” as a functional “element, step, or ingredient” of the solution only to later disclaim it. In the claims at issue, the pharmaceutical solution always “consist[ed] of” the listed ingredients. Neither the Examiner nor Neurelis ever discussed impurities, degradation products, residual solvents, or other byproducts that may necessarily be present or inherent in the claimed pharmaceutical solution. Thus, Neurelis

could not disclaim impurities that it did not address. *See Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1306 (Fed. Cir. 2007) (“To operate as a disclaimer, the statement in the prosecution history must be clear and unambiguous, and constitute a clear disavowal of scope.”).

Accordingly, there has been no disclaimer of claim scope so as to construe the “consisting of” language in a manner that is inconsistent with established law.

5. The Construction Padagis Proposes is Unworkable and Inappropriate.

a. Padagis’s construction would preclude infringement of every “consisting of” claim in every case.

While the Court need not delve into infringement and noninfringement now, an additional reason Padagis’s proposed construction is incorrect is that it proves too much. A rewriting of the legal effect of “consisting of” to exclude even smallest mote of impurities would eliminate the possibility of infringement of any drug product claim because of trace impurities are inherent to all drug products. *See McConville Decl.* at ¶¶ 42-43. But this is not the law – such claims are approved by mandatory authority and the MPEP, and such claims are routinely found infringed. *See, e.g., Melinta Therapeutics, LLC v. Nexus Pharms., Inc.*, No. 21-cv-02636, 2024 WL 4799896 at *11 (N.D. Ill. Nov. 15, 2024) (finding infringement of “consisting of” claims over defendant’s argument that water not included in the listed ingredients); *Otsuka Pharm. Co., Ltd. v. Lupin Ltd.*, No. 21-900-RGA, 2022 WL 2952759 at *5 (D. Del. July 26, 2022) (construing “consisting of” claims to include impurities that are implicit in the claimed ingredients).

As discussed above, there is no basis for this Court to depart from *Conoco* and its progeny and render infringement impracticable in future ANDA cases.

b. Padagis’s Construction “Particularly” Excluding Water and “Oil” Is Inappropriate

Padagis’s proposed construction “particularly excluding water and oil” creates more problems than it solves by raising the question of what “oil” is in this context. Presumably the meaning must flow from the statements made during prosecution that Padagis will argue give rise to a purported disclaimer. Those statements were made, as addressed above, to overcome Sonne that disclosed an “oil and water” emulsion. *See* Appx. Ex. 16 at Appx272. But the “oil” to which Sonne referred was *vitamin E*. *See, e.g.,* Sonne 10:20-31 (Table) (showing the “oil phase” includes Vitamin E (α -tocopherol) and a Vitamin E derivative). But Vitamin E is a necessary, named ingredient in Neurelis’s claimed pharmaceutical solutions. Padagis’s proposed construction would seemingly exclude this critical component set forth in the claims. As such, it cannot be correct.

Finally, Padagis seeks a superfluous construction that cannot be correct under prevailing law. *See, e.g., Conoco Inc.*, 460 F.3d at 1360. According to Padagis, the “consisting of” language should be interpreted as excluding “anything else,” but “particularly excluding water and oil.” As explained above, Padagis’s proposed construction excluding “anything else,” is contrary to well established authority. Its further articulation that it exclude both “anything else,” and “particularly excluding water and oil,” provides a superfluous definition that cannot be correct. If the phrase excludes “anything else,” then why must it also “exclude water and oil”? And if that interpretation were correct, which it is not, then the Court will need to supply a list of all other components, elements, impurities, and residual solvents that also should be excluded. This flaw illustrates precisely why the established meaning of “consisting of” should be controlling and why the Court should not accept Padagis’s invitation to depart from it.

B. Defendant's Answering Position

The issues at this phase of the proceeding are the proper construction of the disputed claim term, and whether, so construed, the claims are indefinite. Neurelis attempts to interject questions of infringement, but the contents of Padagis's ANDA Product is not the focus of this inquiry; it is the meaning of the claims. *Vita-Mix Corp. v. Basic Holding, Inc.*, 581 F.3d 1317, 1324 (Fed. Cir. 2009) (“Claims are properly construed without the objective of capturing or excluding the accused device.”); *see also InterDigital Communications, Inc. v. U.S. Int'l Trade Comm'n*, 601 Fed. Appx. 972, 978 (Fed. Cir. 2015) (“Whether the accused products, in some sense, do the same thing as disclosed in the patent sheds little light on the proper construction of the claim term, the only issue before us.”). Padagis's proposed construction is consistent with the position taken by the applicants during prosecution and accords with the plain, ordinary, and established meaning of the transition phrase, “consisting of.” It is Neurelis that is asking the Court to deviate from the principle that the claims are limited to the recited elements, to the exclusion of other elements related to the alleged invention.

If Neurelis is correct, and the claims can include related, unrecited and disclaimed elements such as water, then the claims are indefinite because a POSA would not be able to determine with reasonable certainty when a composition would begin to infringe. If other related, but unrecited, elements can be present, which elements are they, and in what quantities? Neurelis argues that the presence or absence of other elements should be understood in view of specification from sources other than the patents, such as the USP or NF, but that is not how the components are recited in the claims.⁶ Moreover, the Asserted Patents do not provide the necessary guidance for a POSA to

⁶ Tellingly, Neurelis did not seek to construe the recited elements to expand them to include the USP or NF definitions, likely because the inventors plainly knew how to draft the claims to cover

ascertain the limits of the claims. Therefore, to the extent the claims are not limited specifically to the recited elements, but could include additional related elements, they are indefinite.

**1. In The Words of the Applicants, the Asserted Claims
“exclude[] anything else” Other Than the Recited Elements,
and “[i]n particular ... exclude[] water and oil”**

**a. Water and Oil Are Not “Impurities Normally Associated
with the Component[s] of [the] Claimed Invention”**

Neurelis’s position rests on the presumption that water, oil, or other elements that the Asserted Patents identify as potential ingredients of the formulation are “impurities,” but this stretches the conventional meaning of the transitional phrase. As the Federal Circuit has explained, “impurities normally associated with the component of a claimed invention are implicitly adopted by the ordinary meaning of the components themselves.” *Conoco*, 460 F.3d at 1361. “[I]mpurities that a person of ordinary skill in the relevant art would ordinarily associate with a component on the ‘consisting of’ list do not exclude the accused product or process from infringement.” *Id.* at 1360.

Additional components that are related to the invention, however, *are* excluded. *Id.* at 1360-61 (explaining that “‘consisting of’ does not exclude additional components or steps that are unrelated to the invention” and “[i]f ... MIBK had been added to adjust the stability of the suspending medium or prevent agglomeration of polymer, it may not have been an impurity and therefore EEI would most likely not infringe.”). Here, as discussed above, water and oil are not “elements unrelated to the invention and unavoidable impurities.” *Kim v. Earthgrains Co.*, No. 01 C 3895, 2010 WL 625220, at *3 (N.D. Ill. Feb. 18, 2010).

such embodiments. *See* ’786 patent at claims 26 and 27 (specifying “wherein the α -tocopherol is Vitamin E USP”).

What distinguishes this case from those on which Neurelis relies is that the unrecited ingredients are not mere impurities, unrelated to the alleged invention itself. Donovan Decl. at ¶25 (“[A] POSA would not consider water to be an ‘impurity’ within the context of the Asserted Patents”). In *Conoco*, the district court made a factual finding that the additional element, “MIBK,” was an impurity. 460 F.3d at 1356, 1360. Although the defendant had intentionally added it to the mixture, “MIBK is a common impurity in industrial alcohols in order to prevent a liquor tax from being applied.” *Id.* at 1360. Here, unrecited elements like water and oil are not mere impurities, but ingredients that could affect the performance of the formulation. Donovan Decl. at ¶¶26-35. Benzodiazepines are not readily soluble in water but may be soluble in certain types of oils. Donovan Decl. at ¶27. Introducing these ingredients into the carrier system will change the performance of the formulation in the alleged invention. Donovan Decl. at ¶¶26-35. Thus, the issue here is more like the Federal Circuit’s hypothetical alternative in *Conoco*, when it observed that, “[i]f ... MIBK had been added to adjust the stability of the suspending medium or prevent agglomeration of polymer, it may not have been an impurity.” 460 F.3d at 1360-61.

For the same reason, this is not *Norian*, which involved a kit for preparing a mineral, consisting of particular chemical components. 363 F.3d at 1324-25. The defendant’s accused product contained the same chemicals, but also included a spatula for mixing them. *Id.* at 1325. The addition of the spatula did not take the accused product outside the scope of the claims because “a spatula is not part of the invention that is described.” *Id.* at 1332. “[T]he spatula has no interaction with the chemicals, and [therefore] is irrelevant to the invention.” *Id.* Here, the unrecited elements (especially water and oil) are related to the alleged invention because they can interact with the recited elements. Donovan Decl. at ¶35; *see also* ’546 patent at 1:49-51, 18:5053, Table 11-3.

Even in *Norian*, the Federal Circuit had telegraphed that if the additional element had been a chemical it would have taken the accused product outside the scope of the claims. *Norian*, 363 F.3d at 1331-32 (“the claims are explicitly limited in that no other chemical can be included in the composition” and “the term ‘consisting of’ permits no other chemicals in the kit”). The Court need not determine whether the amounts of additional ingredients actually used by Padagis change the performance of the formulation. *Kim*, 2010 WL 65220 at *5 (explaining *Norian*, “[t]he Federal Circuit did not make exceptions for chemicals that had no material effect on the formula”). That the additional ingredients are related to the alleged invention is sufficient to require their exclusion based on the claim language. *Shire*, 2015 WL 4596410, at *7 (“[T]he case law exceptions to the terms’ absolute exclusion are narrow—the Federal Circuit has only mentioned impurities or aspects truly unrelated to the invention.”).

b. Neurelis’s Position Conflicts with the Conventional Meaning

Neurelis argues that the applicants expressly adopted the conventional meaning of the transitional phrase, *supra* Section IV.A.1 at 22 (citing ’414 Patent at 15:31-33), but the conventional meaning excludes unrecited elements related to the alleged invention. *Norian*, 363 F.3d at 1331; *accord* ’414 Patent at 15:31-33 (stating the phrase “includes only those elements set forth in the claim”). Neurelis proceeds to argue a strawman—that for the applicants to have acted as their own lexicographers and to have redefined the transitional phrase, there should have been a clearly set forth definition and an express intent to redefine the term. *Supra* Section IV.A.1 at 22. But it is Neurelis that seeks to redefine the claim language. Under the conventional meaning, which was expressly adopted and not redefined by the applicants, the introduction of unrecited elements places a composition outside the scope of the claims.

Indeed, the applicants adhered to the conventional understanding of “consisting of” during prosecution. They explicitly asserted that the solution recited in the claim language “consists of a benzodiazepine drug, one or more natural or synthetic tocopherols or tocotrienols, one or more alcohols or glycols and optionally one or more alkyl glycosides. In other words, the recited solution contains: each of a benzodiazepin [sic] drug; one or more tocopherols or tocotrienols; one or more alcohols or glycols; and optionally one or more alkyl glycosides; *and the solution excludes anything else*. In particular, *the solution excludes water and oil*.” Appx. Ex. 15 at Appx257. The applicants reiterated the point that the claims “*exclude any ingredients* (such as water and oil) not included within the group of benzodiazepine drugs, tocopherols or tocotrienols, alcohols or glycols, and optionally alkylglycosides [sic].” Appx. Ex. 15 at Appx258.

Although Neurelis ostensibly asks the Court to apply the plain and ordinary meaning of the transitional phrase, that is not what it is doing. Instead, Neurelis seeks to expand the scope of the claims to include unrecited elements related to the alleged invention. As the applicants’ statements during prosecution recognized, additional ingredients like water and oil are related to the alleged invention. *Id.*; *see also* Donovan Decl. at ¶35. Construing the claims to include such ingredients redefines the conventional meaning of the transitional phrase, turning “consisting of” into “comprising,” in contravention not only to the established principles of claim construction but also the expressed intentions of the applicants.

c. Padagis’s Construction Aligns with the Principles of Claim Construction and the Statements of the Applicants

The plain and ordinary meaning of “consisting of” “excludes any elements, steps, or ingredients not specified in the claim.” *AFG Indus.*, 239 F.3d at 1245. Ordinarily, “consisting of” is understood to mean “I claim what follows and nothing else.” *Vehicular*, 212 F.3d at 1383. That should be especially so in this case, where the applicants repeatedly and emphatically argued their

claimed solution was limited to the recited ingredients and “excludes anything else,” and in particular “excludes water and oil,” Appx. Ex. 15 at Appx257, and “exclude[s] such additional ingredients as water, [and] poloxamer and benzalkonium chloride.” Appx468. A plain reading of the claims on this record does not include any additional unrecited components in any amounts, certainly not water, oil, poloxamer, or benzalkonium chloride.

Contrary to Neurelis’s contention, Padagis’s construction would not “preclude infringement ... in every case.” *Supra* Section VI.A.5.a at 32. Neurelis argues that the claims must include trace impurities because they are “inherent to all drug products,” *id.* at 18, but the intrinsic record provides no support for a “trace” exception nor does Neurelis or its expert place clear limits on how much of an ingredient may be present. Moreover, Padagis’s construction does not preclude impurities. Water, oil, and the other ingredients that the applicants described in the specification but expressly excluded from the claims are not impurities—they are ingredients related to the alleged invention. The specification’s few examples of formulations having water included in relatively small amounts, suggests that even miniscule amounts can be material. Thus, the exclusion of water, oil, and the other ingredients is not only consistent with, but required by *Conoco* and *Norian*.

Neurelis also argues that Padagis’s construction cannot be correct because one of the components—the one or more natural or synthetic tocopherols or tocotrienols—is oil-based, and as a recited ingredient, these oil based components must be within the scope of the construction (“pharmaceutical solution for nasal administration containing only *those elements set forth in the claim* ...”). But the recitation of one oil-based ingredient in the claims does not mean that additional oil-based ingredients may also be included. To the contrary, such other ingredients

would plainly be related to the alleged invention and would therefore be excluded under *Conoco* and *Norian*.

Otsuka, which Neurelis cites, actually supports Padagis’s position. There, the parties disputed the scope of a claim reciting “amorphous composites consisting of” two ingredients. 2022 WL 2952759 at *3. The plaintiff proposed a construction that would have included “impurities and other elements unrelated to the amorphous composites of the invention,” whereas the defendant argued that the claims were limited to the recited elements “and no additional excipients.” *Id.* Resolving the dispute in favor of the defendant, the Court recognized that how an ingredient might be “labelled” was not dispositive. *Id.* at *4. Rather, the determinative fact was whether the ingredient was one that affected the performance of the active ingredient. *Id.* In the context of the Asserted Patents, unrecited ingredients like water and oil are not mere impurities or residual solvents because they affect the characteristics of the solution, including the solubility of the active ingredient. Donovan Decl. at ¶¶27-35.

Padagis’s ANDA Product [REDACTED]

[REDACTED], e.g., Appx. Ex. 29 at Appx478-479, but [REDACTED]

[REDACTED]. Rather, the Asserted Patents and the case law make it clear that it is additional elements, like water, that are excluded from the scope of the claims because they are related to and can affect the alleged invention itself. *Otsuka*, 2022 WL 2952759 at *5 (explaining that “[i]n *Norian*, the Federal Circuit held that ‘consisting of’ did not permit inclusion of additional chemicals in a bone-repair kit”); *see also Integra LifeSciences Corp. v. HyperBranch Med. Tech., Inc.*, No. CV 15-819-LPS-CJB, 2017 WL 5172396, at *4 n8 (D. Del. Nov. 8, 2017) (holding “consisting of” language excluded “amide linkages” that “would have an effect on the biodegradability of the hydrogel and cannot be considered ‘impurities normally

associated with the component.”); *Kim*, 2010 WL 625220 at *5 (a claim to “a chemical formula cannot contain additional chemicals”).

Neurelis also cites *Melinta Therapeutics, LLC v. Nexus Pharms, Inc.*, No. 21-cv-02636, 2024 WL 4799896 (N.D. Ill. Nov. 15, 2024), but its summary parenthetical mischaracterizes the issues in that case. *Supra* Section VI.A.5.a at 32. The claim at issue there recited a method of “administering” a “composition” that “consists of” a specific list of ingredients, and the construction of each of those terms was contested. 2024 WL 4799896 at *8-14. The defendant argued that the “composition” should include a diluent (water), *id.* at *8-10, while also arguing that the “consists of / consisting of” language should exclude a diluent. *Id.* at *11. The district court held that the “composition” and “consists of / consisting of” language ***did not*** include water (contrary to what Neurelis is advocating here), *id.* at *8-11, but that the subsequent “administering” step included diluting the composition prior to administration to a patient. *Id.* at *12-14. Thus, the “composition” that “consists of” a specific list of ingredients did not include water, but the composition was diluted in water prior to administration. *Id.* at *8-11. The case is inapposite to the present dispute.

Finally, Neurelis argues that Padagis’s construction “cannot be correct” because it excludes “anything else” but also particularly identifies “water and oil.” *Supra* Section VI.A.5.b at 33. The additional language particularly pointing out water and oil was proposed to align with the express statements of the applicants during prosecution and so that the present dispute would be joined at the appropriate point in the case. *See, e.g.*, Appx. Ex. 15 at Appx257 (“In other words, the recited solution contains: each of a benzodiazepine drug; one or more tocopherols or tocotrienols; one or more alcohols or glycols; and optionally one or more alkylglycosides; ***and the solution excludes anything else.*** In particular, ***the solution excludes water and oil.***”).

It is well-established that the “consisting of” transitional language closes the claims to additional unrecited components, with only narrow exceptions for “impurities or aspects truly unrelated to the invention.” *Shire*, 2015 WL 4596410, at *7. However, had Padagis proposed only that, Neurelis would apparently have taken the position later in the case that water and oil were impurities, unrelated to the alleged invention, when they are not. Thus, far from superfluous, Padagis’s proposed language is necessary to ferret out and resolve the parties’ claim scope dispute.

d. The Specification Does Not Redefine the Claims to Include Unrecited Elements

Relying on extrinsic evidence, Neurelis argues that the claims’ recitation of types of ingredients (*e.g.*, “one or more alcohols”) should be understood to include other ingredients such as varying amounts of water, because ethanol and benzyl alcohol are allegedly known to include water, as evidenced by USP standards. *Supra* Section VI.A.2 at 23-24. But Neurelis has not sought to construe “one or more alcohols” or “ethanol” or “benzyl alcohol,” nor has it proposed constructions for those terms that they should include not only the recited element but also other elements. This is likely because the Asserted Patents would not support such constructions. The applicants provided extensive lists of the various alternate components that they contemplated using in their formulations. *E.g.*, ’546 patent at 2:16-3:17. When they intended to identify versions of components with particular grades or water contents, they did so. ’546 patent at 7:23-29, 10:13-18, 37:65-66, 46:36-60, 47:19-48. These instances were the exception, however, not the rule. Throughout the rest of the dozens of columns of the specification, when the applicants intended to simply identify a component itself, without reference to grade or water content, they simply did that.

Neurelis further argues that the examples in the Asserted Patents vary the ingredients being used, including their water content. *Supra* Section VI.A.3.a at 24-26. Indeed, some examples

identify components by their name alone, without reference to USP-grade or water content. ’546 patent at 45:40-46:23. Others particularly identify components as USP-grade or dehydrated. ’546 patent at 46:24-47:48. That the specification discusses such alternatives does not mean that they are necessarily within the scope of the claims. The applicants originally sought broader “comprising” claims that may have encompassed such alternatives. Appx. Ex. 22 at Appx376. But they expressly narrowed those claims by amending the transitional phrase to “consisting of” and thereafter repeatedly emphasized that the claimed formulation was limited only to the specifically listed ingredients. *E.g.*, Appx. Ex. 15 at Appx257.

Finally, Neurelis contends that Padagis’s construction is “implausible” as requiring “zero-impurity solutions.” Opening Br at 14-15. But Padagis’s construction is not excluding *impurities*, it excludes additional ingredients that are related to the alleged invention, and describing those ingredients in the exact language used by the applicants themselves during prosecution.

e. Padagis’s Construction Accords with the Applicants’ Statements during Prosecution

“As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence and protects the public’s reliance on definitive statements made during prosecution.” *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003). “[W]here the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender.” *Id.* Neurelis argues that the applicants “did not disclaim water, residual solvents or other impurities,” Opening Br at 15-18, but the applicants were clear in the prosecution history that “additional ingredients” such as “water,” “oil,” and “poloxamer and benzalkonium chloride” were excluded from the scope of the claims. *E.g.*, Appx. Ex. 28 at Appx468.

To argue against disclaimer, Neurelis relies on *Azurity Pharms., Inc. v. Alkem Laboratories. Ltd.*, 133 F.4th 1359 (Fed. Cir. 2025), but the prosecution history in that case actually aligns closely with the applicants' statements here, and establishes that disclaimer is appropriate in this instance. In *Azurity*, the claims recited a formulation "consisting of" six recited ingredients. 133 F.4th at 1362-63. As in this case, earlier versions of the claims that appeared in predecessor patent applications had "used the open-ended transition 'comprising' to specify the formulation." *Id.* at 1364. Later, to overcome a prior art rejection, the applicants amended the claims to "consisting of" language. *Id.* They also argued, as did the applicants in this case, that the absence of expressly identified ingredients distinguished the claims from the prior art. *Id.* at 1364.

The statements during prosecution in *Azurity* and by the applicants in this case are equal in their force and effect. *Compare Azurity*, 133 F.4th at 1364 (arguing "[t]he absence of propylene glycol and polyethylene glycol in the claimed invention, in part, distinguish it from" the prior art) with Appx. Ex. 16 at Appx272 (arguing the claim only "consists of" the recited ingredients and "[t]he solution excludes anything else, including water and oil" as found in the prior art). Likewise, the materiality of the arguments to the Examiner's allowance of the claims were similar in each case. *Compare Azurity*, 133 F.4th at 1365 (reasons for allowance including that the "instant claims exclude the presence of propylene glycol or polyethylene glycol in view of the consisting of language") with Appx. Ex. 24 at Appx401 (in reasons for allowance for the '414 patent: "The prior art does not reasonably teach or suggest the recited combination of components while excluding all non-recited components as required by the 'consisting of' transitional phrase").

Disclaimer based on statements like this are not a close call—they "amply" meet the burden of clear and unmistakable statements disclaiming the presence of additional ingredients. *Azurity*, 133 F.4th at 1366; *see also Tech. Properties Ltd. LLC v. Huawei Techs. Co., Ltd.*, 849 F.3d

1349, 1358 (Fed. Cir. 2017) (finding disclaimer where, as here, applicant characterized scope of claim and on distinguished it from the prior art on that basis); *Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319, 1325 (Fed. Cir. 2002) (claims did not cover “triple superphosphate”—an embodiment expressly disclosed in the written description—because applicant cancelled claim covering “triple superphosphate” and expressly disclaimed that compound in arguments to examiner to gain allowance); *Acadia Pharmaceuticals Inc. v. Aurobindo Pharma Ltd.*, No. CV 20-985-RGA, 2022 WL 1026983, at *3 (D. Del. Apr. 6, 2022) (finding disclaimer where, like here, applicant “clearly state[d] that the claimed invention achieves the claimed high bulk density of the pimavanserin tartrate alone, while the prior art achieved the same bulk density using excipient”).

Neurelis argues the applicants’ statements were limited to a claimed solution from a prior art emulsion, but this is revisionist history. The applicants repeatedly distinguished the prior art based on **both** the distinction of solutions versus emulsions **and** on the basis that the claims “exclude any ingredients (such as water and oil) not included within the group” of recited elements. Appx257-258; *see also* Appx. Ex. 16 at Appx272-273. “Any explanation, elaboration, or qualification presented by the inventor during patent examination is relevant, for the role of claim construction is to capture the scope of the actual invention that is disclosed, described, and patented.” *Azurity*, 133 F.4th at 1366 (quoting *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1063 (Fed. Cir. 2016)); *see also Tech. Properties*, 849 F.3d at 1359 (“But the scope of surrender is not limited to what is absolutely necessary to avoid a prior art reference; patentees may surrender more than necessary. When this happens, we hold patentees to the actual arguments made, not the arguments that could have been made.” (citations omitted)). Here, as in *Azurity*, “[t]he prosecution history leaves no room to doubt that [the applicants] adopted the ‘consisting of’ transition specifically to narrow the claims and overcome [the prior art].” 133 F.4th at 1367.

Neurelis’s contention that, “[i]n the claims at issue, the pharmaceutical solution always ‘consisted of’ the listed ingredients,” *supra* Section VI.A.4 at 31, is inconsistent with the prosecution history of the parent ’439 Application. *See generally Azurity*, 133 F.4th at 1363-68 (applying disclaimer to a child application that was filed with “consisting of” language in view of prosecution history of parent applications that originally contained “comprising” language); *see also Elkay Manufacturing Co. v. EBCO Manufacturing Co.*, 192 F.3d 973, 980 (Fed. Cir. 1999) (“When multiple patents derive from the same initial application, the prosecution history regarding a claim limitation in any patent that has issued applies with equal force to subsequently issued patents that contain the same claim limitation.”).

Finally, even if the applicants’ statements do not rise to the level of disclaimer (they do), at a minimum they confirm that water, oil, poloxamer and benzalkonium chloride, and any other potential ingredients described in the specification, are not mere unavoidable impurities, but related to the alleged invention and therefore excluded by the “consisting of” transitional phrase. *Shire*, 2015 WL 4596410, at *7 (“[T]he case law exceptions to the terms’ absolute exclusion are narrow—the Federal Circuit has only mentioned impurities or aspects truly unrelated to the invention.”).

2. If the Asserted Claims Do Not Exclude Water, They Are Indefinite

If the Asserted Claims are construed to include other potential ingredients, such as water and oil, then all of the Asserted Claims are invalid as indefinite because they fail to inform with reasonable certainty the extent to which the claims include such ingredients, if at all. Each Asserted Claim recites a “pharmaceutical solution for nasal administration *consisting of*” a list of recited ingredients. The transition phrase “‘consisting of’ is a term of patent convention meaning that the claimed invention contains only what is expressly set forth in the claim.” *Multilayer Stretch Cling*

Film Holdings, Inc. v. Berry Plastics Corp., 831 F.3d 1350, 1358 (Fed. Cir. 2016) (quoting *Norian Corp. v. Stryker Corp.*, 363 F.3d 1321, 1331 (Fed. Cir. 2004)).

If the claims are not so limited, a POSA would not be able to ascertain with reasonable certainty what other elements could be included in the claims and in what amounts, rendering the claims indefinite. *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1251 (Fed. Cir. 2008) (a claim is indefinite if it does not have “meaningfully precise claim scope”); *see also* Donovan Decl. at ¶50 (“[S]hould the claims of the Asserted Patents be construed to allow for the inclusion of water (and other components), it is my opinion that a POSA cannot reasonably ascertain what is within the scope of the invention, and what is outside the scope of the invention”).

a. The Specification Does Not Provide Guidance for Unrecited Elements

Although the express language of the claims limits the alleged invention to four categories of ingredients (a benzodiazepine drug; one or more natural or synthetic tocopherols or tocotrienols; one or more alcohols; and an alkyl glycoside), the specification of the Asserted Patents discloses alternate embodiments including additional components, such as water. ’546 Patent at 12:40-43 (“In some embodiments, a carrier system in such a composition includes water. In some embodiments, such a liquid carrier system contains water and one or more excipients.”). The specification also expressly acknowledges that various excipients, e.g., the alcohol component, may or may not include water. ’546 Patent at 7:20-29 (“In some embodiments, the one or more alcohols are selected from the group consisting of: ethanol, propyl alcohol, butyl alcohol, pentanol, benzyl alcohol, any isomers thereof, and any combinations thereof In some embodiments, the alcohol or glycol is free of water (dehydrated, USP). In some embodiments, the alcohol is ethanol (dehydrated, USP).”).

Water is not, however, an inert ingredient. *See* '546 patent at Table 11-3 (reporting different pharmacokinetic values in formulations having and not having water). As Dr. Donovan explains, given the solubility challenges of benzodiazepines, the presence and relative amount of water can significantly affect the performance of a formulation. Donovan Decl. at ¶52 (“[T]he amount of water present in the claimed solutions is a very important factor, as it impacts the solubility of the benzodiazepine within the claimed solution”). Whether and how much water to include is a reflection of intentional design choices. Donovan Decl. at ¶30.

The inconsistency between the plain language of the claims describing a formulation without water, and the examples in the specification showing material changes from the inclusion of water, muddies the claim scope. *IQASR LLC v. Wendt Corp.*, 825 Fed. App'x 900, 904 (“[C]ontradictory examples in the specification introduced ambiguity to an otherwise clear term and render it indefinite”). Moreover, the specification's limited teachings do not explain how much water is acceptable, particularly where the claim is silent not only to its possible inclusion but also to its amount relative to the other expressly recited components. Donovan Decl. at ¶¶50-56. There are no guideposts by which a POSA can determine when additional ingredients like water can be included and to what extent. *See Dow Chem. Co. v. Nova Chems. Corp. (Canada)*, 803 F.3d 620, 634 (Fed. Cir. 2015) (holding claims indefinite where “the required guidance is not provided by the claims, specification, and prosecution history”).

b. A POSA Cannot Infer Reasonably Certain, Objective Boundaries

“The claims, when read in light of the specification and the prosecution history, 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). The claims must “provide[] enough explanation that an

artisan may infer reasonably certain, objective boundaries of the term.” *IQASR*, 825 Fed. App’x at 904.

Here, there is no reasonably certain way to determine when additional ingredients like water should be included and, if so, how much. Donovan Decl. at ¶57. In support of a construction that permits the inclusion of water, Dr. McConville argues that “trace” amounts of are always present and therefore they must be acceptable. McConville Decl. at ¶¶35-41. But Dr. McConville never defines how much a “trace” amount is, and the specification of the Asserted Patents provides no criteria by which a POSA could determine when the amount becomes material. Donovan Decl. at ¶52. The amount of water that might be encompassed by the scope of the claim thus becomes a subjective question, which is the epitome of indefiniteness. *Dow*, 803 F.3d at 635 (A claim is indefinite when it “leave[s] the skilled artisan to consult the ‘unpredictable vagaries of any one person’s opinion.’” (quoting *Interval Licensing*, 766 F.3d at 1374)).

The specification further complicates the question as it explicitly contemplates inclusion of water as an additional component of the solutions described therein. *E.g.*, ’546 patent at 13:45-46. Other embodiments that are “substantially free of water” are also contemplated, but the specification does specify at what minimum level an embodiment is considered to have no water. *E.g.*, ’546 patent at 11:31-34. “The Asserted Patents have provided no guidance regarding a threshold amount that distinguishes a ‘trace amount’ of residual solvent and what rises to the level of an ‘ingredient’ of the claimed solution.” Donovan Decl. at ¶53.

Dr. McConville contends that USP standards provide guidance about what would be considered acceptable water content. McConville Decl. at ¶¶38, 41. But the Asserted Patents do not adopt those standards or teach their application. Donovan Decl. at ¶56. To the contrary, the specification references USP grade excipients in some examples and in some claims, but also elects

not to use them in other examples and other claims. *Id.* Thus, far from clarifying the scope of the claims, the specification's and claims' arbitrary and inconsistent reliance on USP standards only serves further confusion. *IQASR*, 825 Fed. App'x at 904 (finding claims indefinite where "a skilled artisan must wade through a morass of uncertainty and contradiction").

"The primary purpose of the definiteness requirement is to ... give notice to the public of the extent of the legal protection afforded by the patent." *All Dental Prodx*, 309 F.3d at 779. "[C]laims ... [must be] sufficiently precise to permit a potential competitor to determine whether or not he is infringing." *Morton Int'l, Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470 (Fed. Cir. 1993). Here, however, there is substantial ambiguity as to what quantities of additional ingredients, like water, can be included, or even if they can be included at all. Donovan Decl. at ¶¶56-57. When competitors have no way of determining whether potential formulations would fall within the scope of the claims or not, the claims cannot be valid. *See Geneva Pharms., Inc. v. GlaxoSmithKline PLC*, 349 F.3d 1373, 1384 (Fed. Cir. 2003) ("A claim is indefinite if its legal scope is not clear enough that a person of ordinary skill in the art could determine whether a particular composition infringes or not.").

C. Plaintiff's Reply Position

1. "Consisting of" Allows for Impurities Ordinarily Associated With The Invention

It is well-established that transitional phrases, such as "consisting of," are terms of art with known constraints in patent law. *Conoco, Inc. v. Energy & Environ. Intern., L.C.*, 460 F.3d 1349, 1359 (Fed. Cir. 2006). "Although 'consisting of' is a term of restriction, the restriction is not absolute." *Id.* at 1360. The Federal Circuit in *Conoco* set forth the well-established meaning of "consisting of," by explaining that "[t]he Patent Board of Appeals has interpreted 'consisting of' to 'close[] the claim to the inclusion of materials other than those recited except for impurities

ordinarily associated therewith.” *Id.* at 1359 (citing *Ex parte Davis*, 80 U.S.P.Q. 448, 450 (Pat. Office Bd. App. 1948)). That meaning has remained unchanged for more than 60 years.

Here, just like in *Conoco*, any impurities that are ordinarily associated with the components of the claimed pharmaceutical solution are not excluded by the transitional phrase “consisting of.”

a. Neurelis’s Position Is Consistent with the Legal Standard

Neurelis submits claim construction in this case is unnecessary because “consisting of” is a transitional phrase already defined by law. As explained by the Federal Circuit in *Conoco*, “[b]ecause ‘consisting of’ is a term of art in patent law with its own construction,” claim construction is unnecessary. *Conoco*, 460 F.3d at 1359.

Padagis *agrees*, explaining the applicable law in its brief as follows:

As the Federal Circuit has explained, “impurities normally associated with the component of a claimed invention are implicitly adopted by the ordinary meaning of the components themselves.” *Conoco*, 460 F.3d at 1361. “[I]mpurities that a person of ordinary skill in the relevant art would ordinarily associate with a component on the ‘consisting of’ list do not exclude the accused product or process from infringement.” *Id.* at 1360.

Supra Section VI.B.1.a at 35 .

Notwithstanding agreement as to the applicable law, Padagis argues that Neurelis is seeking to introduce unrecited ingredients within the scope of the “consisting of” claim language. Not so. In the context of this invention, a person of ordinary skill would ordinarily associate water as an impurity with the ingredients set forth in the Asserted Claims. *See e.g.*, McConville Decl. at ¶ 36. The inclusion of water as an impurity, not a separately recited ingredient, is consistent with and included within the established meaning of “consisting of.” Moreover, as acknowledged by another court in this District, it is unnecessary to construe terms to include impurities as they are inherent in chemical solutions. *Otsuka Pharm. Co. v. Lupin Ltd.*, 2022 WL 2952759 at *4 (D. Del. July 26, 2022).

b. Padagis's Position Is Contrary to the Law

Notwithstanding the foregoing, Padagis argues that the use of “consisting of” in the Asserted Claims should be interpreted as “containing only those elements set forth in the claim and excluding anything else.” Joint Claim Construction Chart, 2. Not only does this contradict the law, but it also runs counter to what skilled artisans understand a claimed pharmaceutical solution to contain. Trace amounts of water remaining in each active ingredient of the pharmaceutical solution constitutes an impurity. McConville Decl. at ¶¶ 34-35. As Dr. McConville explains, to exclude even a single molecule of impurities, like water, in a claimed solution would be an untenable and impossible demand to satisfy. *Id.* at ¶¶ 36-43. Thus, the law recognizes that residual amounts of water or other impurities “unrelated to the invention” are included within the scope of the “consisting of” phrase. *Conoco*, 460 F.3d at 1360.

Padagis argues that the foregoing law should not apply in this case given the prosecution history of the Asserted Patents. *Supra* Section VI.B.1.c at 38-39. As its sole support, Padagis points to Neurelis's statements to the Examiner after adopting the “consisting of” transitional phrase that other ingredients, such as “water and oil” are excluded from the claimed solution. But as explained in more detail below, these statements do not support Padagis's argument. During prosecution, Neurelis was asserting that the claimed pharmaceutical solution excludes “water and oil” as *functional ingredients* of the prior art emulsions because that is what the cited prior art required. Thus, the only potential exclusion that can arise from the prosecution history is “water and oil” as functional ingredients to form emulsions. The scope of “consisting of” and its inclusion of impurities unrelated to the invention remains unchanged.

To support its position, Padagis relies on *Otsuka*. But *Otsuka* involved the addition of *excipients*, not impurities. *Otsuka*, 2022 WL 2952759 at *4 (citing *Glaxo Grp. Ltd. v. Apotex, Inc.*, 376 F.3d 1339, 1347 (Fed. Cir. 2004)). In fact, the court and the parties acknowledged that

the presence of impurities in the claimed compounds was included within the scope of the “consisting of” claim language. While “the presence of impurities” was not in dispute (and therefore was not necessary to include in the construction), the patent owner argued that excipients should be considered impurities falling within the scope of the “consisting of” transitional phrase. The *Otsuka* court concluded that excipients were not impurities since they were “purposefully added” in order to “enhance the performance of the active ingredient.” *Id.* This finding is irrelevant here, where neither water nor oil – let alone both together – are “purposefully added” in order to “enhance the performance of the active ingredient.” *Id.*

Additionally, Padagis cites to *Conoco*, but utterly ignores its holding and its application in a completely analogous setting. Instead, Padagis relies on *Norian* to suggest that a residual water impurity is somehow *related* to the claimed invention and therefore it is excluded by the “consisting of” language. That assertion is false. If water were important to the drug product’s function, it would be on the label as an ingredient or listed in the underlying NDA or [REDACTED]. It does not appear in any of those locations, because the presence of residual water is purely incidental and unrelated to the invention. While there are circumstances where water *could be* related to a composition (*i.e.*, the creation of an emulsion of benzodiazepine in order to enhance solubility), that is not the claimed invention. Moreover, Padagis provides no factual basis or legal justification to claim that water in this case is somehow related to the claimed invention. Accordingly, the presence of a water impurity is *not* related to the claimed invention and as such, it falls within the scope of “consisting of.”

Padagis’s reliance on *Integra* is likewise misplaced. There, the court concluded that “consisting of,” excluded non-ester groups from the claimed invention. *Integra LifeSciences Corp. v. HyperBranch Med. Tech., Inc.*, 2017 WL 5172396, at *4 n.8 (D. Del. Nov. 8, 2017). The

question presented in *Integra* did not involve impurities because, as the court noted, “no one . . . assert[ed] that other such [non-ester] groups would be akin to the ‘impurities’ at issue in *Conoco*.” *Id.* at *4 n.8.

In short, none of the cited authorities support Padagis’s position that the “consisting of” transitional phrase excludes residual amounts of water (and other impurities), when water is not listed as an ingredient. Neurelis is not advocating the inclusion of water as an additional ingredient in the claimed pharmaceutical solution. Instead, it simply requests what the law already provides – that residual amounts of water and other impurities may be present as recognized by persons of ordinary skill and as highlighted in references such as the United States Pharmacopeia (“USP”). ’414 Patent, 8:17-24 (noting that the claimed solution is “substantially free of water,” not *completely* free of water).

c. Water and Residual Solvents Are Impurities That Are Included In A “Consisting Of” Claim

Padagis does not dispute that *Conoco* is controlling authority, nor that “impurities normally associated with the component of a claimed invention are implicitly adopted by the ordinary meaning of the components themselves.” *Conoco*, 460 F.3d at 1361. And, neither Padagis nor its expert dispute (indeed, they studiously avoid the topic) that water is an impurity normally associated with components listed in the Asserted Claims, particularly including ethanol and other alcohols. Donovan Decl. at ¶¶ 55-56. This should be the end of the argument.

Padagis argues that Neurelis “did not seek to construe the recited elements to expand them to include the USP or NF definitions.” *Supra* Section VI.B at 34 n.6. Padagis has this completely backwards. No enlargement is necessary because the “consisting of” language as a matter of law *already* includes what skilled artisans ordinarily expect to be associated with the claimed

components. References or citations to the USP simply provide objective evidence of which impurities are “ordinarily associated” with the claimed invention. McConville Decl. at ¶¶ 37-38.

Padagis admits that water would qualify *as an ingredient* in a formulation if it is both: 1) intentionally added to the composition; and 2) has a substantial effect on the performance of the formulation. *Supra* Section VI.B.1.a at 36; Donovan Decl. at ¶¶ 26-35. Padagis attempts to analogize this case to “the Federal Circuit’s hypothetical alternative in *Conoco*,” where MIBK would not have been an impurity had it “been added to adjust the stability of the suspending medium or prevent agglomeration of polymer.” *Conoco*, 460 F.3d at 1360-61; *supra* Section VI.B.1.a at 36. But that is not the case here. Unlike MIBK, water is not an “ingredient” of any kind in the claimed invention. If it is present, it is only incidental to the claimed components. And neither Padagis nor its expert disputes that there is always a residual amount of water in chemical compounds, particularly alcohols (as in this case) as evidenced by USP standards. *See* Donovan Decl. at ¶ 56. Of course, merely adding an incidental amount of water or other impurity – even intentionally – cannot render an otherwise infringing composition non-infringing.

2. The Prosecution History Does Not Support Padagis’s Position

Padagis’s prosecution history argument (and its proposed claim construction) rests on an assertion that Neurelis disclaimed “water and oil” as an additional ingredient in the claimed pharmaceutical solutions. Yet Padagis fails to address the incoherence of suggesting that Neurelis disclaimed “oil” (as used in *Sonne*) when, in fact, Vitamin E is ***both referred to as an “oil” in Sonne and is one of the claimed components of the pharmaceutical solution.*** Thus, Padagis must concede that statements made during prosecution distinguished the claimed invention from the “emulsions” in *Sonne*, as opposed to a disclaimer of all water (or oil) even if incidentally present as impurities. This is demonstrated by the fact that throughout all the instances water is discussed in the prosecution history, it is always in the context of its combination with oil and/or

in reference to emulsions. This distinction over compositions having emulsions is how Neurelis overcame the Sonne reference, and each of its discussions of water bear this out.

The exclusion of “water and oil” in view of the prior art does not support Padagis’s position that Neurelis disclaimed the presence of *any* water or other impurity in the claimed pharmaceutical solution. During prosecution, Neurelis explained that the oil and water “emulsions are specifically excluded from the instant claims, which recite solutions (not emulsions) and exclude any ingredients (such as water and oil) not included with the group of [recited elements].” Appx258 (emphasis in original). “Water and oil,” as they relate to the emulsions described in Sonne, were excluded from the claims, but water and other impurities inherent in the recited ingredients were included under the “consisting of” phrase. Padagis misreads these statements and urges the Court to interpret them as a complete disclaimer of any and all water molecules.

To support its position, Padagis cherry picks partial statements from the prosecution history, including statements such as “and the solution excludes anything else” and “the solution excludes water and oil.” *Supra* Section II.B.2.b at 13; Appx257. But these statements, like all the rest, unequivocally refer to the exclusion of *additional ingredients*, such as “water and oil” that the prior art required as components to yield a benzodiazepine composition that could be used as a drug. *See also*, Appx468 (naming “water” in the context of emulsions in an obvious rejection over Sonne). The use of “consisting of” to exclude *additional ingredients* does not extend to impurities or other residual solvents that are unrelated to the invention. Padagis mistakes this point entirely.

In view of the foregoing, none of the cases cited or relied upon by Padagis are analogous to the case at bar and none of them support Padagis’s position. For example, *Azurity* involved a patent holder who narrowed its claims to overcome a disclosure of propylene glycol as a *functional*

component within a prior art composition. *Azurity Pharms., Inc. v. Alkem Lab'ys Ltd.*, 133 F.4th 1359, 1367 (Fed. Cir. 2025). Critically, unlike the present case, the court did not address the argument that that propylene glycol was an impurity and neither party appeared to argue otherwise; all parties agreed that propylene glycol had a functional purpose. *Id.* at 1367-69.

Padagis's reliance on *Tech. Properties* is similarly misplaced. The court found disclaimer as to an oscillator "fixed by an off-chip crystal." *Tech. Props. Ltd. LLC v. Huawei Techs. Co.*, 849 F.3d 1349, 1354-56, 1358-59 (Fed. Cir. 2017). But in that case, the applicant had distinguished prior art on the basis of this functionality and then later sought to reclaim it. *Id.* at 1358-59. Here, Neurelis did not overcome Sonne by arguing that its composition excludes trace amounts of water – that position would have been unnecessary to distinguish Sonne. Neurelis overcame Sonne by disclaiming emulsions as part of the pharmaceutical solution and it is not seeking here to recapture emulsions within the scope of the claim.

Padagis also relies on *Rheox*, but it also does not apply here. In *Rheox*, the patentee brought suit based on an alleged infringer's use of triple superphosphate (TSP). *Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319 (Fed. Cir. 2002). During prosecution, the patentee disclaimed compounds with solubility levels close to the prior art, and TSP fell within that disclaimed range. *Id.* at 1326-27. Based on the disclaimer, the patentee was foreclosed from claiming that their patent covered TSP. *Id.* *Rheox* had nothing to do with disclaiming residual impurities.

Finally, Padagis relies on *Acadia* which is also misplaced. In *Acadia*, the patentee distinguished its invention on the basis that it achieved a high bulk density of a compound without the need for further ingredients – ingredients that it later sought to reclaim. *Acadia Pharms. Inc. v. Aurobindo Pharma Ltd.*, 2022 WL 1026983 at *3-4 (D. Del. Apr. 6, 2022). In contrast, Neurelis

distinguished Sonne on the basis that Sonne used emulsions, which Neurelis does not seek to reclaim.

In each of these cases, the patentee disclaimed some aspect of their invention during prosecution and then attempted to recapture that aspect or element in litigation. There is no evidence of that here. At no time during the prosecution of the Asserted Patents did Neurelis disclaim the presence of all water, impurities or residual solvents that would ordinarily exist within the claimed solution. There was no prior art that required Neurelis to make such a disavowal nor is there any evidence of such a statement. Instead, Neurelis adopted the transitional phrase “consisting of,” and cited directly to the MPEP and the controlling law that allows for the inclusion of impurities unrelated to the invention.

3. The Asserted Claims are Not Indefinite

In the alternative, Padagis argues that if the claims include impurities such as water and residual solvents, then the claims must be indefinite. There are no grounds for such a position, especially in view of the applicable law that both parties agree applies, and the mere use of the transitional phrase “consisting of” does not render the claims indefinite.

A patent is “invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). Moreover, “[a]ny fact critical to a holding on indefiniteness . . . must be proven by the challenger by clear and convincing evidence.” *Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003). By using “consisting of” as the transitional phrase in the Asserted Claims, Neurelis has not rendered the claims indefinite. Padagis proffers no other evidence or argument that meets the legal standard to establish indefiniteness and thus its claim of invalidity fails.

a. There are No Unrecited Elements

Each of the components of the claimed pharmaceutical solution are set forth in clear and unambiguous language, and there are no unrecited elements. Water is not a claimed component. Water is not added nor claimed as an active ingredient. Water, however, as an impurity, can exist in the claimed solution along with “residual solvents” or “an unwanted reaction product.” *Otsuka*, 2022 WL 2952759 at *4. The presence of any of the foregoing does not render the claims indefinite. Moreover, “impurities that a person of ordinary skill in the relevant art would ordinarily associate with a component on the ‘consisting of’ list do not exclude the accused product or process from infringement.” *Conoco*, 460 F.3d at 1360.

Applying the foregoing in this case, a person of ordinary skill would know and understand that residual amounts of water may be present in the claimed pharmaceutical solution. Further, a skilled artisan would know that ethanol (one of the claimed ingredients) is synthesized through fermentation by yeast in water and thus, there is always some trace amount of water present in ethanol, dehydrated ethanol, and benzyl alcohol. *See* McConville Decl. at ¶¶ 40-41. To the extent that any residual water needs to be further clarified in the context of this invention beyond what the law provides and what a person of ordinary skill in the art would naturally expect, the specification provides both reference to the USP standards of the recited compounds and specifically prescribes that “the solution contains less than about 1%, less than about 0.5%, less than about 0.25% or less than about 0.1% water.” ’414 Patent at 8:18- 9:23.

In arguing that the claims are indefinite by reason of residual water being present, Padagis relies on *IQASAR LLC v. Wendt Corp.*, where the term at issue was “magnetic fuzz.” 825 Fed. App’x 900, 901 (Fed. Cir. 2020). In that case, there was no “meaningful and functional explanation of the definitional characteristics of ‘magnetic fuzz.’” *Id.* at 904. Here, the purported inconsistencies between the plain language of the claims and the examples in the specification do

not come anywhere near the ambiguity created through the use of the term “magnetic fuzz.” The residual water in the elements of the pharmaceutical solution are recognized by those skilled in the art and are defined by USP standards, and the specification provides examples of water contents that qualify as “substantially free of water.” ’414 Patent at 8:18- 9:23.

b. A POSA Would Know, Understand and Expect that the Recited Elements Include Impurities

The amount of water as an impurity is well within the knowledge of a person of ordinary skill in the art. A person of ordinary skill in the art would know that some trace amounts of water are inherent in the claimed pharmaceutical solution. *See* McConville Decl. at ¶¶ 35-41. The question of when the amount of water becomes “material” is not reached because the claims do not include water as an ingredient; the presence of water is only that of an impurity.

Further, to the extent that water is present in the claimed pharmaceutical solution, the Asserted Patents explain that “the solution contains less than about 1%, less than about 0.5%, less than about 0.25% or less than about 0.1% water.” *See e.g.*, ’414 Patent at 8:18- 9:23. These are clear measurements that a person of ordinary skill would be able to follow with reasonable clarity and certainty. Further, reference to USP-grade ingredients indicates the suitability and option of using “ethanol (dehydrated, USP).” Accordingly, the recitation of “ethanol” in the claims provides a person of ordinary skill flexibility to use either USP-grade or non-USP grade solvents. *Supra* Section VI.A.3.b at 26-27; *see also*, McConville Decl. at ¶ 37 (noting that pharmaceutical drug manufacturers are not always required to use USP-grade ingredients). Neurelis cannot control the amount of water that is in every variant of ethanol, and a person of ordinary skill would know that it is impossible to create a 100% impurity free chemical compound. McConville Decl. at ¶ 42.

There is nothing indefinite about the Asserted Claims in light of what a person of ordinary skill in the art would understand from the scope of the claims. Additionally, there is nothing of

record that would rise to the level of clear and convincing evidence of indefiniteness, especially given the well-established meaning of “consisting of.” Padagis has not and cannot meet their burden of proof.

D. Defendant’s Sur-Reply Position

1. The Disclaimed Elements Are Not “Impurities”

a. Padagis’s Position is Consistent with the Established, Conventional Meaning of “Consisting of”

There is no dispute that impurities are not excluded by the “consisting of” transitional phrase. *See Conoco, Inc. v. Energy & Env’tl. Int’l, L.C.*, 460 F.3d 1349, 1361 (Fed. Cir. 2006). But this exception is “narrow,” *Shire Dev. Inc. v. Cadila Healthcare Ltd.*, No. CV 10-581 (KAJ), 2015 WL 4596410, at *7 (D. Del. July 28, 2015), and only applies to “aspects unrelated to the invention.” *Norian Corp. v. Stryker Corp.*, 363 F.3d 1321, 1331 (Fed. Cir. 2004). Whether an unrecited element is an “ingredient” or an “impurity” must be assessed relative to the claimed invention. *Id.* (“[W]hile ‘consisting of’ limits the claimed invention, it does not limit aspects unrelated to the invention.”). Here, ingredients like water were contemplated and even tested in alternative embodiments before ultimately being excluded by amended claim language. Appx. Ex. 15 at Appx249.

In its Response, Padagis cited the *Otsuka* decision for the proposition that whether an element is an “ingredient” or an “impurity” does not turn on how it might be “labelled” by third party sources, but on whether it affects the invention in the context of the patents. *Supra* Section VI.B.1.c at 40. In an unsuccessful effort to distinguish the case, Neurelis argues that the court in *Otsuka* concluded that the elements were not impurities because they were “purposefully added,” *supra* Section VI.C.1.b at 53, but the court’s decision was instead steered by the fact that the

elements affected the invention. *Otsuka*, 2022 WL 2952759 at *4. Intent is immaterial. *See Conoco*, 460 F.3d at 1360-61 (“the intentional addition of a component does not change its status”).

Here, the specification makes clear that water affects the claimed invention. *See* ’546 patent at 1:49-51, 18:50-53 (discussing water solubility of benzodiazepines); *see also id.* at 7:6-7, 11:24-12:30, 12:40-43, 12:56-14:43 (describing embodiments with varying amount of water, including those that have water and those that have “less than about 1%, less than about 0.5%, less than about 0.25% or less than about 0.1% water”); Table 11-3 (reporting different pharmacokinetic values in formulations having and not having water). Thus, regardless of whether a party lists water as an ingredient in its product or the USP describes it as an impurity of certain components, these elements affect the invention and therefore are “ingredients.” *Otsuka*, 2022 WL 2952759 at *4-5.

Neurelis further argues the *Otsuka* court found it “unnecessary to construe terms to include impurities as they are inherent in chemical solutions,” *supra* Section VI.C.1.a at 51, but this is an overstatement. The court found that “there [was] no need to include impurities in the construction” because “the parties [did] not dispute that impurities may be present.” 2022 WL 2952759 at *4. **What** was an impurity was very much in dispute, just as it is here. *Id.* at *4-5. In resolving that dispute in the chemical context, the court rejected the proposition that other chemicals could be “unrelated” to a chemical composition. *See id.* at *5 (noting that in *Norian* the unrelated ingredient was “not a chemical” and “not part of the invention at all”); *see also id.* at n9 (rejecting the plaintiff’s proposal that other chemical not recited in the claims were “unrelated to the amorphous composites of the invention” as it would “turn[] the ‘consisting of’ transition to a ‘comprising’ transition”). Here, too, the unrecited elements are not “unrelated” to the invention and therefore must be excluded.

b. Dr. Donovan’s Testimony that a POSA Would Not Consider Water to Be an “Impurity” in the Context of the Asserted Patents is Unrebutted

Dr. Donovan offered extensive testimony about the effect of ingredients like water on the performance of benzodiazepine formulations and whether a person of ordinary skill in the art would consider them “impurities.” *See* Donovan Decl. at ¶¶25-35. As Dr. Donovan opined, “a POSA would not consider water to be an ‘impurity’ within the context of the Asserted Patents.” Donovan Decl. at ¶25. Unrecited elements like water and oil are not mere impurities here, and introducing these ingredients into the carrier system will change the performance of the formulation. Donovan Decl. at ¶¶26-35. In reply, Neurelis provides no supplemental declaration from its expert, Dr. McConville, directly responding to any of Dr. Donovan’s opinions.

c. This Case is Like the Hypothetical in *Conoco*

Neurelis argues that “Padagis cites to *Conoco*, but utterly ignores its holding and its application in a completely analogous setting.” *Supra* Section VI.C.1.b at 53. In fact, *Conoco* directly supports Padagis’s position. There, the additional element was “a common impurity in industrial alcohols in order to prevent a liquor tax from being applied” and that had “little to no effect on the present invention and is normally associated with industrial alcohols to reduce tax liability.” *Conoco*, 460 F.3d at 1360-61. In the context of the Asserted Patents here, water and oil are not unrelated elements that may be added to a formulation inconsequentially.

To the contrary—and as the specification, the prosecution history, and Dr. Donovan’s uncontroverted testimony all accord—water and oil are critical elements of the carrier system that will change the performance of the formulation. *See, e.g.*, ’546 patent at 18:50-53; Appx. Ex. 15 at Appx257-258, Appx. Ex. 16 at Appx272-273, Appx. Ex. 24 at Appx401, Appx. Ex. 28 at Appx468; Donovan Decl. at ¶¶26-35. Thus, the “completely analogous setting” is the hypothetical scenario in *Conoco*, where “[i]f ... MIBK had been added to adjust the stability of the suspending

medium or prevent agglomeration of polymer, it may not have been an impurity and therefore EEI would most likely not infringe.” *Conoco*, 460 F.3d at 1360-61.

d. Neurelis’s Resort to the Actual Products is Improper

Neurelis tries to distinguish the *Conoco* hypothetical by arguing that “water is not an ‘ingredient’ of any kind in the claimed invention,” *supra* Section VI.C.1.b at 55, but it is confusing the *claimed invention* from its product. *Supra* Section VI.C.1.b at 53-54 (arguing that elements like “water” are not related to the invention because if they “were important” they “would be on the label” or “listed in the underlying NDA or [REDACTED]”). The question is not whether the claims encompass the parties’ products, but whether these elements are ingredients in the context of the Asserted Patents. *Vita-Mix Corp. v. Basic Holding, Inc.*, 581 F.3d 1317, 1324 (Fed. Cir. 2009) (“Claims are properly construed without the objective of capturing or excluding the accused device.”); *InterDigital Communications, Inc. v. U.S. Int’l Trade Comm’n*, 601 Fed. Appx. 972, 978 (Fed. Cir. 2015) (“Whether the accused products, in some sense, do the same thing as disclosed in the patent sheds little light on the proper construction of the claim term, the only issue before us.”).

Neurelis could have pursued broader claims that expressly included water or that were open-ended enough so as to not exclude it—indeed, subsequently issued patents are so broad. *See, e.g.*, Appx. Ex. 27 at Appx420, U.S. Patent No. 12,268,664. But *these* Asserted Patents are narrower and limited to the specifically recited ingredients, to the exclusion of other ingredients. Appx. Ex. 15 at Appx257 (“the solution excludes anything else. In particular, the solution excludes water and oil”); Appx. Ex. 28 at Appx468 (“the pending claims exclude such additional ingredients as water, poloxamer and benzalkonium chloride, which [the prior art] teaches.”). These limitations reflect the bargain the applicants made to obtain these Asserted Patents, and Neurelis should not

be permitted to rewrite the claims to recapture what it voluntarily surrendered. *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003).

e. Neurelis Cannot Rewrite the Prosecution History

Neurelis repeatedly argues that the applicants' reference to "water and oil" was limited to distinguishing solutions from prior art emulsions, but the prosecution history does not support this revisionist interpretation. To distinguish the prior art, the applicants *first* argued that "the instant claims require solutions, and thus specifically exclude Sonne's emulsions." Appx. Ex. 16 at Appx272. If the applicants stopped there, Neurelis's position might have some credibility. But the applicants went on: "The instant claims *also recite* specific ingredients, while excluding others through the recitation of 'consisting of' language. *In particular, both water and oil are excluded from the instant claims*, as they are not one of the recited ingredients." Appx. Ex. 16 at Appx272 (emphasis added).

The applicants made this distinction twice in the same office action response. Appx. Ex. 16 at Appx273 (again arguing the claims "recite solutions (not emulsions)" *and* because they "exclude *any ingredients* (such as water and oil) not included within the group"). They also made it on multiple occasions. *See* Appx. Ex. 15 at Appx257-258. Moreover, the arguments were not solely limited to "oil and water" but included water (not with oil) and other ingredients. Appx. Ex. 28 at Appx468 ("the pending claims exclude such additional ingredients as water, poloxamer and benzalkonium chloride"). The prosecution history thus belies the contention that the applicants only distinguished solutions from emulsions.

Nor is there any "incoherence" in the applicant excluding additional ingredients like water and oil while also reciting an oil-based component (the one or more natural or synthetic tocopherols or tocotrienols, e.g., Vitamin E). *Supra* Section VI.C.2 at 55. The recitation of one oil-

based ingredient in the claims does not mean that additional oil-based ingredients may also be included, nor does it render all other possible sources of oil as mere “impurities.”

2. Even if Water is an “Impurity,” Neurelis Disclaimed It

Neurelis’s attempt to distinguish *Azurity* only on the basis that the Court did not address whether the element in question—propylene glycol—was an impurity is unavailing. Whether an element is an “impurity” or an “ingredient” speaks to whether it is within the plain and ordinary meaning of the claim language. *Conoco*, 460 F.3d at 1361. Disclaimer, however, surrenders scope and “narrows the ordinary meaning.” *Omega*, 334 F.3d at 1324. Thus, *Azurity* is inapposite to the whether water is an impurity and relates only to whether applicants disclaimed water during prosecution history. As set forth in Padagis’s Response, the prosecution history statements here align closely with those in *Azurity*, were material to allowance, and should have the same force and effect. *Supra* Section VI.B.1.e at 44. Neurelis makes no effort to distinguish *Azurity* on any of those grounds.

Neurelis’s attempts to distinguish Padagis’s other cited cases are similarly unsuccessful, as shown by its arguments regarding these decisions. *See Tech. Props. Ltd. LLC v. Huawei Techs. Co.*, 849 F.3d 1349 (Fed. Cir. 2017) (contending applicants did not distinguish prior art based on “trace amounts of water”; however, they explicitly distinguished it based on the inclusion of water as an ingredient); *Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319 (Fed. Cir. 2002) (contending the case did not concern impurities; however, the elements were described as potential ingredients before being expressly disclaimed, as with water here); *Acadia Pharms. Inc. v. Aurobindo Pharma Ltd.*, No. CV 20-985-RGA, 2022 WL 1026983, at *3 (D. Del. Apr. 6, 2022) (contending applicants distinguished prior art solely by use of emulsions; however, their arguments were not so limited). Whether, in hindsight, Neurelis believes it could have overcome the prior art based solely on emulsions does not change the scope of the applicant’s disclaimer. *Tech. Properties*, 849 F.3d at

1359 (“[T]he scope of surrender is not limited to what is absolutely necessary to avoid a prior art reference; patentees may surrender more than necessary. When this happens, we hold patentees to the actual arguments made, not the arguments that could have been made.” (citations omitted)).

Finally, Neurelis abandons its argument that “the pharmaceutical solution always ‘consisted of’ the listed ingredients.” *Supra* Section VI.A.4 at 31. Thus, the applicants’ amendment to the “consisting of” language and arguments about the exclusion of ingredients, including water, were material to securing allowance. *Azurity*, 133 F.4th at 1366. As in *Azurity*, the prosecution history statements here “amply” meet the burden of clear and unmistakable statements disclaiming the presence of additional ingredients. *Id.* Therefore, regardless of whether the elements are impurities, the applicants surrendered the inclusion of them in the claims of the Asserted Patents.

3. Alternatively, the Asserted Claims Are Indefinite

a. Neurelis’s “Residual” or “Trace Amount” Standards Do Not Provide Objective Boundaries

Neurelis’s argument that “residual amounts” or “some trace amount” of water may be present in a formulation underscores the indefiniteness of the Asserted Claims. *Supra* Section VI.C.3.a at 58-60. The claims, read in the context of the specification, must provide objective boundaries from which a person of skill in the art can determine the scope of the invention with reasonable certainty. *Biosig Instruments, Inc. v. Nautilus*, 783 F.3d 1374, 1381–82 (Fed. Cir. 2015). Neurelis asserts that “water, however, as an impurity, can exist,” but given that water affects the benzodiazepine formulations—as established by the admissions in the specification and the uncontroverted testimony of Dr. Donovan—there are no guardrails for how much water “can exist” before a formulation falls outside the scope of the claims. In other words, there are no objective boundaries as to what amount of water may be present for there to be infringement. *Dow Chem. Co. v. Nova Chems. Corp. (Canada)*, 803 F.3d 620, 635 (Fed. Cir. 2015) (a claim is indefinite

when it “leave[s] the skilled artisan to consult the ‘unpredictable vagaries of any one person’s opinion’”).

b. The Specification Does Not Provide Sufficient Guidance

As Dr. Donovan explained, the specification’s limited teachings do not describe how much water is acceptable. Donovan Decl. at ¶¶50-56. The specification includes various possible embodiments, some expressly acknowledging water as a possible component, ’546 Patent at 13:45-46, while others are “substantially free of water.” ’546 patent at 11:51-59 (“the solution contains less than about 1%, less than about 0.5%, less than about 0.25% or less than about 0.1% water.”). As Dr. Donovan explains, the specification has “no guidance regarding a threshold amount that distinguishes a ‘trace amount’ of residual solvent and what rises to the level of an ‘ingredient’ of the claimed solution.” Donovan Decl. at ¶53.

Nor would a person of ordinary skill in the art rely on the USP to fill these gaps. Although the specification sometimes identifies ingredients as being USP-grade, ’546 patent at 7:26-28, 10:13-18, 37:65-66, 46:36-60, 47:19-48, it more often describes ingredients without any reference to grade. The Asserted Claims themselves do not specify whether components are USP-grade, further confusing the matter. *See* Donovan Decl. at ¶56 (“it is my opinion that the knowledge and recognition that the alcohol components may be USP grade (and the subsequent decision to not claim the ethanol and/or benzyl alcohol as USP grade) only further enhances the ambiguity as to what amount of water, if any, can be included within the claimed solutions”). These uncertainties and contradictions render the claims indefinite. *See IQASR*, 825 Fed. App’x at 904.

c. Dr. Donovan’s Opinions Are Unrebutted

In her declaration supporting Padagis’s Response Brief, Dr. Donovan provided extensive opinions supporting her conclusion that “should the claims of the Asserted Patents be construed to allow for the inclusion of water (and other components), it is my opinion that a POSA cannot

reasonably ascertain what is within the scope of the invention, and what is outside.” Donovan Decl. at ¶50. As Dr. Donovan explained, the “amount of water present in the claimed solutions is a very important factor,” and whether and how much is included reflects intentional design choices. *Id.* at ¶¶30, 50. And, Dr. Donovan concluded that a determination of how much water could be present would be “arbitrary and will likely vary from one POSA to another” and “a POSA does not have reasonable certainty as to what is within the scope of the Asserted Patent claims.” *Id.* at ¶57.

Notably, Neurelis provides no expert testimony in rebuttal. Instead, Neurelis relies on portions of Dr. McConville’s original declaration to argue that the specification or USP standards would guide a POSA as to how much water could be included. The cited portions of Dr. McConville’s declaration are insufficient to create an issue of fact in view of Dr. Donovan’s testimony. First, the cited portions of Dr. McConville’s declaration are nothing more than generalized statements he made in support of his contention that water should be considered an impurity within the scope of the “consisting of” language. *Supra* Section VI.C.3.b at 60-61 (citing McConville Decl. at ¶¶35-42). They are not responsive to Dr. Donovan’s declaration, and Dr. McConville provides no supplemental opinions in which he directly addresses Dr. Donovan’s opinions.

Second, Dr. Donovan’s declaration specifically criticized Dr. McConville’s reliance on a “trace amount” standard as being ambiguous. *See* Donovan Decl. at ¶¶52-53 (noting that Dr. McConville never defined how much water is a “trace” amount and explaining that the specification provided no criteria by which a POSA could determine when the amount becomes material). Dr. Donovan also explained why Dr. McConville’s resort to USP standards was insufficient in view of inconsistencies between the specification and the Asserted Claims. Donovan

Decl. at ¶56. Dr. McConville had a full and fair opportunity to review and directly respond to Dr. Donovan's opinions, and the absence of a supplemental declaration speaks volumes.

VII. CONCLUSION

A. Plaintiff's Position

For the foregoing reasons, the Court should decline Padagis's invitation to reinterpret the meaning of the transitional phrase "consisting of." If the Court elects to proceed with claim construction, Neurelis respectfully submits that the Court should apply the well-established meaning of the phrase "consisting of," and reject Padagis's proposed definition.

B. Defendant's Position

For the foregoing reasons, the Court should adopt Padagis's construction of the disputed claim term or, alternatively, find the Asserted Claims indefinite.

Date: August 15, 2025

Respectfully submitted,

/s/ Ethan H. Townsend

Ethan H. Townsend (#5813)

MCDERMOTT WILL & SCHULTE LLP

The Brandywine Building
1000 N. West Street, Suite 1400
Wilmington, DE 19801
Tel: (302) 485-3911
ehtownsend@mwe.com

/s/ Stephen J. Kraftschik

Stephen J. Kraftschik (#5623)

POLSINELLI PC

222 Delaware Avenue, Suite 1101
Wilmington, DE 19801
(302) 252-0920
skraftschik@polsinelli.com

OF COUNSEL:

OF COUNSEL:

Michael Sitzman (admitted *pro hac vice*)

MCDERMOTT WILL & SCHULTE LLP

415 Mission Street, Suite 5600
San Francisco, CA 94105
Tel: (628) 218-3800
msitzman@mwe.com

Mark T. Deming

POLSINELLI PC

150 N. Riverside Plaza, Suite 3000
Chicago, IL 60606
(312) 819-1900
mdeming@polsinelli.com

Timothy P. Best (admitted *pro hac vice*)

MCDERMOTT WILL & SCHULTE LLP

2049 Century Park East, Suite 3200
Los Angeles, CA 90067-3206
Tel: (310) 551-9321
tbest@mwe.com

Chad A. Landmon

POLSINELLI PC

1401 Eye ("I") Street, N.W.
Suite 800, Washington, DC 20005
(202) 783-3300
clandmon@polsinelli.com

Connor S. Romm (admitted *pro hac vice*)

MCDERMOTT WILL & SCHULTE LLP

200 Clarendon Street, Floor 58
Boston, MA 02116-5021
Tel: (617) 535-5977
cromm@mwe.com

Corey M. Casey, Pharm.D.

POLSINELLI PC

900 W. 48th Place
Suite 900, Kansas City, MO 64112
(816) 753-1000
ccasey@polsinelli.com

Hannah Hurley (admitted *pro hac vice*)

MCDERMOTT WILL & SCHULTE LLP

650 Live Oak Avenue, Suite 300
Menlo Park, CA 94025-4885
Tel: (650) 815-7527
hhurley@mwe.com

Dominique E. Smith

POLSINELLI LLP

2049 Century Park East, Suite 2900
Los Angeles, CA 90067
(310) 229-1390
dominique.smith@polsinelli.com

Attorneys for Plaintiff Neurelis, Inc.

*Attorneys for Defendants Padagis LLC,
Padagis US LLC and Padagis Israel
Pharmaceuticals Ltd.*