IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

KRAFT FOODS GROUP BRANDS LLC, Plaintiff,	:	C.A. No. 14-028 (LPS)
v.	:	
TC HEARTLAND, LLC d/b/a HEARTLAND FOOD PRODUCTS GROUP, et al., Defendants.	:	

PLAINTIFF'S INITIAL CLAIM CONSTRUCTION BRIEF

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I. NATURE AND STAGE OF THE PROCEEDINGS

Plaintiff Kraft Foods Group Brands LLC ("Kraft") has sued Defendants TC Heartland, LLC d/b/a Heartland Food Products Group and Heartland Packaging Corporation (collectively, "Heartland") for infringement of U.S. Patent Nos. 8,293,299 (the "'299 Patent"), 8,603,557 (the "'557 Patent"), and 8,511,472 (the "'472 Patent"). These patents cover Kraft's innovative "MiO" line of flavored liquid beverage concentrate products, which is responsible for the emergence of a new and booming segment of the beverage market. Collectively, the patents disclose the novel concept of a shelf-stable, flavored liquid beverage concentrate packaged in a convenient, portable, squeezable container that allows the user to dispense the concentrate in varying doses and thereby enables her to customize the intensity of the final beverage's flavor.

Kraft's claim construction positions are consistent with the context of the claims and aligned with the intrinsic record. They comport with the ordinary meaning of the terms as understood by a person of ordinary skill in the art ("POSITA") at the time of the invention in view of the claims, specifications, and prosecution histories, as evidenced by the attached declarations of Drs. Marvin Rudolf and Paul Singh. In contrast, Heartland puts forward positions that are inconsistent with the intrinsic and extrinsic evidence in order to manufacture baseless invalidity and non-infringement defenses. For example, it suggests that three of the disputed terms are indefinite, even though its own senior flavorist (purportedly a POSITA) was able to explain and apply the meaning of one of them in her declarations to the Patent Trial and Appeal Board ("PTAB") in the on-going *inter partes* review proceedings involving the asserted patents,[1] while the other two are defined in dictionaries and other literature used in the packaging industry. The Court should adopt Kraft's claim construction positions in their entirety.

[1] The PTAB instituted *inter partes* reviews of all three patents on November 5, 2015.

II. OVERVIEW OF THE TECHNOLOGY AT ISSUE

A. The ’299 Patent

The common specification of the ’299 and ’557 Patents discloses the concept of a portable, “on-the-go,” squeezable container for a liquid beverage concentrate that lets the user vary the amount of concentrate the user dispenses into water or another target liquid to create a ready-to-drink beverage. By varying the amount of concentrate that goes into to the target liquid, the user is able to customize the intensity of the beverage’s flavor to that user’s taste.

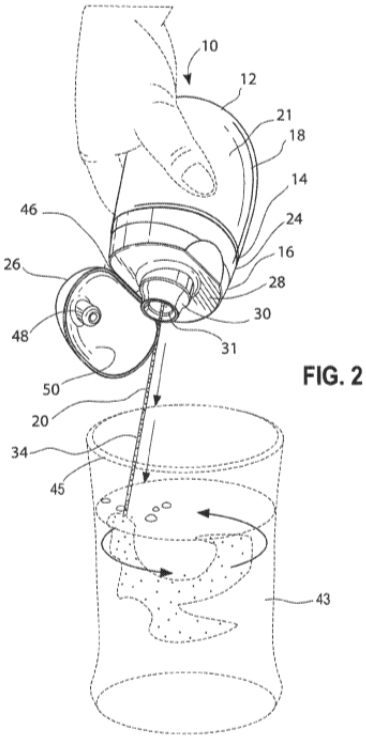


FIG. 2

Formulating a concentrate suitable for use “on the go” presented the inventors with a dilemma. On the one hand, the amount of acid in the concentrate needed to be high in order to prevent the concentrate from spoiling during storage[2] and provide enough tartness in the final beverage after the concentrate was diluted in a large amount of water or other liquid. (Ex. A, ’299 Pat., at 2:9-14; Ex. B, ’299 File Hist., at HFPG0330359.) The inventors’ early formulations comprised as much as 40 percent acid by weight, yielding pH values as low as about 1.0. (*Id.*) On the other hand, the inventors knew that high acid content and low pH could adversely affect the stability of the flavor. (Ex. A, ’299 Pat., at 22:37-39; Ex. B, ’299 File Hist., at HFPG0330359.) High-acid, low-pH aqueous compositions are susceptible to chemical reactions that contribute to the degradation of flavorings and artificial sweeteners. (*Id.* at HFPG0330366.) This may cause a product to lose most, if not all, of its flavor during storage. (*Id.*)

[2] Acid is an “anti-microbial” agent that kills or inhibits the growth of microorganisms. (Ex. A, ’299 Pat., at 2:9-14.)

Because liquid beverage concentrates must be shelf-stable at room temperature for several months in order to be commercially viable, the inventors did not expect their high-acid, low-pH concentrates to be successful.[3] (Ex. B, '299 File Hist., at HFPG0330360.) In fact, as Dr. Leslie West, a flavor scientist with over 30 years of experience, stated in his declaration to the Patent and Trademark Office, the conventional thinking in the industry was that "the pH would have to be above 3 to provide a concentrated product that ha[d] a stable flavor when stored at room temperature for several months." (*Id.* at HFPG0330367.)

The inventors did not want to simply use less acid in the concentrate to bring the pH up from about 1.5 to about 3. Reducing the amount of acid to such an extent would have made the diluted beverage insufficiently tart. (Ex. B, '299 File Hist., at HFPG0330359.) Instead of using less acid, the inventors experimented with introducing pH buffers into the concentrate. This enabled them to increase the pH of the concentrate to about 2.4 without sacrificing acid content. (*Id.* at HFPG0330359-60.) However, the inventors could not simply add enough buffer to bring the pH of the concentrate up to about 3 either, because excess buffer would have detracted from the flavor and tartness of the final beverage. (*Id.* at HFPG0330361.) Because the pH of the buffered concentrate was still significantly below about 3,[4] the inventors did not expect the flavoring and artificial sweetener components of the concentrate to stay stable at room temperature for a commercially acceptable period of time. (*Id.* at HFPG0330360.)

[3] When Dr. Karl Ragnarsson, one of the inventors, contacted a major supplier of sucralose (an artificial sweetener) to discuss the stability of sucralose in high-acid, low-pH conditions, the supplier advised him that it had not even generated any data on the stability of sucralose in the low pH range in which the inventors were experimenting. (Ex. B, '299 File Hist., at HFPG0330359.)

[4] As Dr. West explained in his declaration, the difference between a pH of about 2.4 and about 3 is "significant." (Ex. B, '299 File Hist., at HFPG0330367.) The pH scale is logarithmic, which means that a solution at pH 2 has a 10-fold higher concentration of hydrogen ions than at pH 3 and a 100-fold concentration of hydrogen ions than at pH 4. *Id.*

Contrary to the conventional thinking, the inventors discovered that the buffered concentrates maintained a stable flavor for several months even at a pH of about 1.9 to about 2.4. Dr. Ragnarsson and his co-inventors were "surprised to find that [they] could formulate a low pH, high acid concentrate capable of including flavoring and artificial sweetener that had a shelf-life at room temperature that was long enough for commercially viable products." (Ex. B, '299 File Hist., at HFPG0330360.) Representative claim 1 of the '299 Patent recites:

> 1. A flavored beverage concentrate having a pH of about 1.9 to about 2.4, the flavored beverage concentrate comprising:
> about 30 to about 65 percent water by weight;
> about 15.0 to about 30.0 percent acid by weight;
> up to about 10.0 percent buffer by weight selected from the group consisting of a potassium salt of an acid, a sodium salt of an acid, and combination thereof;
> and about 1.0 to about 30.0 percent flavoring by weight;
> the acid and buffer included in a ratio of about 1:1 to about 60:1, the ratio of the acid and buffer selected to provide the concentrate with at least about 5 times more acid than an otherwise identical non-buffered concentrate having the same pH, and the concentrate having a concentration such that when diluted at a ratio of about 1:75 to about 1:160 to provide a beverage, the concentrate delivers about 0.01 to 0.8.

Ex. A, '299 Pat., at 37:24-39 (disputed language underlined).

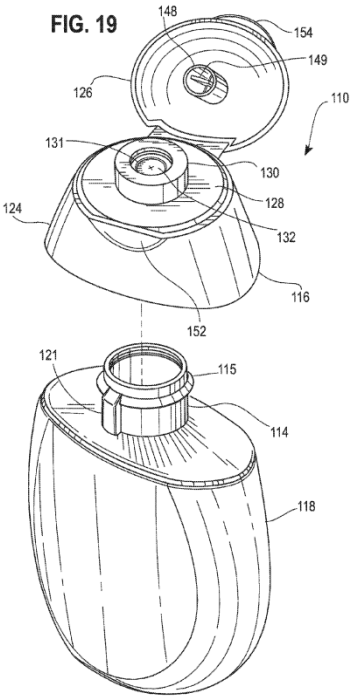
B. The '557 Patent

The '557 Patent claims "packaged flavored liquid beverage concentrates" comprising "flavored liquid beverage concentrate[s]"[5] and various packaging features[6] that facilitate the use of the concentrates as a portable, convenient, "on-the-go" alternative to, for example, dry powdered drink mixes. These packaging features include: a "container body" having a "neck defining an outlet opening"; a reclosable "lid" that includes a "base" portion attached to the

[5] These "flavored liquid beverage concentrate[s]" are essentially the same as the "flavored beverage concentrate[s]" claimed in the '299 Patent. Thus, the disputed language of the '299 Patent also appears (at times with slight variations) in the claims of the '557 Patent.

[6] The packaging limitations of the '557 Patent are not at issue in these *Markman* proceedings.

"neck" of the "container body" and a "cover" portion connected to the base by a hinge; a "valve" supported by the "lid" movable from a closed position, whereby flow of the concentrate through the exit path is substantially blocked when the container body is unsqueezed, to an open position, whereby the concentrate from the interior of the container body can be dispensed in a "jet" when the container body is squeezed. (Ex. C, '557 Pat., at 36:64-37:37.)



Dispensing the contents of the "container body" in a "jet" provides several advantages. The "jet" combines velocity and mass flow to impact the target liquid in a manner that minimizes the displacement of fluid from the target container. (Ex. C, '557 Pat., at 3:47-49, 7:51-55.) This is desirable because splashing fluid can stain clothes and surrounding surfaces. (*Id.* at 1:40-47.) Dispensing the concentrate in a "jet" also promotes the mixing of the concentrate with the target liquid. (*Id.* at 7:50-55.) Unlike, for example, a liquid poured from a cup, a "jet" of liquid concentrate shoots to the bottom of the target container and then swirls back up to the top of the target liquid, creating a generally uniform mixed end product and enabling the consumer to use the concentrate "on the go" without the need for shaking or using extraneous utensils. (*Id.* at 10:62-11:4.)

C. The '472 Patent

After the inventors developed the containers described in the '557 Patent, their next challenge was packaging the containers in a way that facilitated attractive and informative product labeling, offered tamper-evident capability, and held up through repeated squeezing. The inventors began experimenting with shrink-wrap packaging. Even though shrink-wrap

technology had been applied to a variety of containers for a variety of products, applying shrink-wrap packaging to irregularly shaped containers that were intended to be constantly squeezed or deformed presented a number of challenges. For instance, it can be difficult to uniformly apply a shrink-wrap sleeve to a container of an irregular shape, difficult to engineer a shrink-wrap sleeve capable of partial removal (for both tamper-proofing and allowing access to the product of the container), and difficult to provide printed matter on the shrink-wrap sleeve without noticeable distortion. (Ex. D, '472 Pat., at 1:31-35.)

The inventors of the '472 Patent solved these and other problems by developing containers wrapped in perforated shrink-wrap sleeves that provide for easy partial removal, incorporate a tamper-evident feature, and maximize attractive product labeling. (Ex. D, '472 Pat., at 1:39-43.) The shrink-wrap sleeves of the invention feature perforations that allow the user to access the container opening by removing a portion of the sleeve, as shown below.

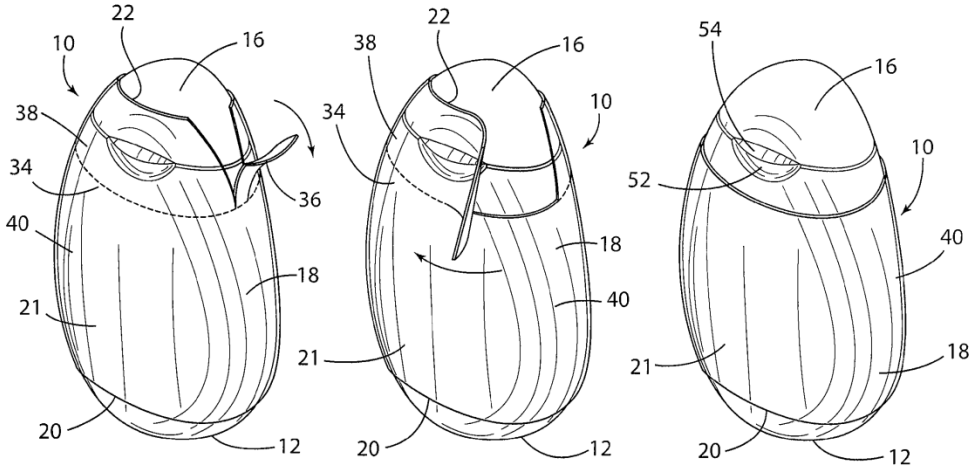


FIG. 2 FIG. 3 FIG. 4

The perforations provide a tamper-evident feature: once the perforations have been ruptured and a partial band of film material removed, it is visually obvious that the container has been opened. (*Id.* at 4:8-11.) Furthermore, prior to the removal of the top portion, the shrink-wrap sleeve completely covers the protruding hinge that secures the flip-top cap to the back surface of the

container, eliminating any gaps between the top edge of the sleeve and the hinged part of the cap above the hinge. (*Id.* at 8:3-8.) Such gaps can provide a path for crumbs and other debris to enter between the shell and the bottle. (Ex. E, '472 File Hist., at HFPG0327000.) The containers claimed in the '472 Patent are adapted to "dispense a jet of [a] liquid concentrate" into a "target container having a liquid therein." (Ex. D, '472 Pat., at 4:41-44, 7:32-34.)

III. GENERAL LEGAL PRINCIPLES

A. Claim Construction

The ultimate construction of patent claims is an issue of law. *Teva Pharms. U.S.A., Inc. v. Sandoz, Inc.*, 135 S.Ct. 831, 837-39 (2015). While there is "no magic formula" by which a court should construe patent claims, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (*en banc*) (quotation omitted). The primary determinants of the meaning of a disputed term are the intrinsic evidence, i.e., the claim language, the specification, and the prosecution history.

Construction begins with the language of the claim, and claim terms should be given their ordinary and customary meaning. *Callicrate v. Wadsworth Mfg., Inc.*, 427 F.3d 1361, 1366-67 (Fed. Cir. 2005); *DSW, Inc. v. Shoe Pavillion, Inc.*, 537 F.3d 1342, 1347 (Fed. Cir. 2007); ("[A]bsent contravening evidence from the specification or prosecution history, plain and unambiguous claim language controls the construction analysis."). The ordinary and customary meaning refers to how a POSITA would understand a claim term "at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips*, 415 F.3d at 1313. Courts "indulge a 'heavy presumption' that a claim term carries its ordinary and customary meaning." *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002) (quotation omitted). Where "the ordinary meaning of claim language as understood by a [POSITA] may be readily

apparent even to lay judges . . . claim construction . . . involves little more than the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1314.

A POSITA is "deemed to read the claim term in the context of the entire patent, including the other claims and the written description." *Biagro W. Sales, Inc. v. Grow More, Inc.*, 423 F.3d 1296, 1302 (Fed. Cir. 2005). Nonetheless, while the specification serves as a guide to claim construction, the Federal Circuit has warned against importing limitations from the specification into the claims. *Phillips*, 415 F.3d at 1312 (restating the "'bedrock principle' of patent law that 'the claims of a patent define the invention' . . . [and thus] [t]he written description part of the specification itself does not delimit the right to exclude" (citations omitted)).

B. Indefiniteness

A claim is invalid for indefiniteness if its language, when read in light of the specification and the prosecution history, "fail[s] 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, 2129 (2014). An issued patent is presumed valid; thus, invalidity must be proved by clear and convincing evidence. *Microsoft Corp. v. i4i Ltd. P'ship*, 131 S. Ct. 2238, 2239 (2011). "[I]n the face of an allegation of indefiniteness, general principles of claim construction apply." *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010) (internal quotations omitted). "[T]he definiteness inquiry trains on the understanding of a skilled artisan at the time of the patent application, not that of a court viewing matters *post hoc*." *Nautilus*, 134 S. Ct. at 2130. At the same time, the Supreme Court's recent holding in *Nautilus* "mandates clarity, while recognizing that absolute precision is unattainable." *Id*. at 2129; *see also Invitrogen Corp. v. Biocrest Mfg., L.P.*, 424 F.3d 1374, 1384 (Fed. Cir. 2005) ("[A] patentee need not define his invention with mathematical precision in order to comply with the definiteness requirement.").

The Court must also consider the subject matter of the inventions, because "[t]he certainty which the law requires in patents is not greater than is reasonable, having regard to their subject matter." *Nautilus*, 134 S. Ct. at 2124.

IV. DISPUTED CLAIM LANGUAGE OF THE '299, '557, AND '472 PATENTS

A. The Phrase "To Provide the Concentrate With at Least 5 Times More Acid Than an Otherwise Identical Non-Buffered Concentrate Having the Same pH" Is Plain and Unambiguous, Requires No Further Construction, and Is Not Indefinite.

Disputed Claim Term	Kraft's Proposed Construction	Heartland's Proposed Construction
"to provide the concentrate with at least 5 times more acid than an otherwise identical non-buffered concentrate having the same pH" '299 Patent, claims 1, 21; '557 patent, claim 10	Ordinary and customary meaning as understood by one of ordinary skill in the art	This language fails to inform, with reasonable certainty, those skilled in the art about the scope of the alleged invention.

This limitation appears in independent claim 1 and dependent claim 21 of the '299 Patent and dependent claim 10 of the '557 Patent. Heartland suggests that this limitation is indefinite, even though its own expert was perfectly able to understand and apply the limitation in designing and carrying out the experiments upon which Heartland relied in its petitions for *inter partes* review of the '299 and '557 Patents. The meaning of this claim limitation is clear to one of ordinary skill in the art, and the limitation requires no further construction.

There is nothing indefinite about this phrase when read in the context of the claims and the specification of the '299 and '557 Patents. The common specification describes a liquid beverage concentrate that includes a buffer, which "provide[s] for increased acid content at a desired pH" (i.e., "pH at a level at which the flavoring is not significantly degraded so as to create off flavors"). (Ex. A, '299 Pat., at 22:53-59.) Thus, by keeping the pH of the concentrate from dropping to a level at which the flavoring may degrade over time, the buffer ensures that

the concentrate maintains a stable flavor throughout a long period of storage notwithstanding the inclusion of a large amount of acid. (*See id.*)

Because the buffer keeps the pH of the concentrate in check, "[t]he buffered concentrate contains substantially more acid than a similar, non-buffered concentrate at the same pH." (Ex. A, '299 Pat., at 22:59-61.) Where a non-buffered concentrate includes X% acid by weight and has a pH of about 1.9, an otherwise identical *buffered* concentrate could include 5X% (or more) acid by weight and still have the same pH. Depending on the amount and strength of the buffer, the buffered concentrate could have 10X% or even 20X% more acid by weight than the non-buffered concentrate. (*Id.* at 22:61-65.) The claim language conveys this concept in a clear, straightforward manner and informs a POSITA about the scope of the claims with reasonable certainty.

Heartland's assertion that the claim language is indefinite is belied by the fact that its own Senior Flavorist, Kim Ferruzzi (purportedly a POSITA), was able to understand and apply this limitation while preparing to opine on the patentability of the claims in the on-going *inter partes* review proceedings. Her declarations before the PTAB describe how she prepared multiple samples of buffered concentrates as well as "[n]on-buffered" but otherwise identical "[c]omparison [s]amples" in order "to determine how many times more acid was present in [the buffered samples]." (Ex. F, Ferruzzi Decl., ¶¶ 30, 40.) For example, she described how she prepared a "Sample 1" comprising certain amounts of acid, buffer, flavoring, propylene glycol, sweetener, alcohol, and water and then prepared a "Comparison Sample 1-T . . . in which the buffer was removed and the amount of acid was greatly reduced, but in which the components other than water were otherwise identical." (*Id.* ¶¶ 86, 89.) Ms. Ferruzzi clearly understood this claim limitation with enough certainty to design and carry out her experiments.

Dr. Marvin Rudolph's declaration (attached as Ex. G) is further evidence that the limitation is reasonably certain to a POSITA. Dr. Rudolph explains that the limitation describes a relationship between the amounts and types of acid and buffer in the concentrate and the resulting effect on the pH of the concentrate. (Ex. G, Rudolph Decl., ¶ 13.) Because the buffer regulates the pH of the concentrate, its presence allows the amount of acid to be increased without a corresponding decrease in the pH of the concentrate. Dr. Rudolph states that he would know how to modify any given buffered concentrate in order to create an otherwise identical *non*-buffered concentrate having the same pH; that is, he could determine how much acid would have to be subtracted from the concentrate in order to compensate for the removal of buffer. (*Id.* ¶ 14.) He would then be able to calculate whether the buffered concentrate had at least five times the amount of acid as the non-buffered concentrate by comparing the amounts of acid in each concentrate. (*Id.*)

The disputed claim language is plain and unambiguous, requires no further construction, and informs a POSITA about the scope of the claimed subject matter with reasonable certainty.

B. The Term "Selected" Is Plain and Unambiguous and Requires No Further Construction.

Disputed Claim Term	**Kraft's Proposed Construction**	**Heartland's Proposed Construction**
"selected" (in "selected to provide") '299 Patent, claims 1, 5, 6, 21; '557 Patent, claims 15, 23	Ordinary and customary meaning as understood by one of ordinary skill in the art	"calculated at the time of formulation"

The term "selected," as used in the phrase "selected to provide" in claims 1, 5, 6, and 21 of the '299 Patent and claims 15 and 23 of the '557 Patent, is a simple, common term that is readily understood by lay persons and skilled artisans alike. The dictionary definition of "select" is "to make a choice; pick." (Ex. H., Webster's Dict.) Thus, the term "selected" means simply

"chosen" or "picked." Ordinary terms having their plain meaning need not be further construed. *See Activevide Networks, Inc. v. Verizon Communications, Inc.*, 694 F.3d 1312, 1326 (Fed. Cir. 2012) ("The district court did not err in concluding that these terms have plain meanings that do not require additional construction."); *DSW*, 537 F.3d at 1347 ("[A]bsent contravening evidence from the specification or prosecution history, plain and unambiguous claim language controls the construction analysis."). Accordingly, the term "selected" requires no further construction.

Nothing in the claims, specification, or prosecution history indicates that "selected" carries a specialized meaning in the context of the '299 and '557 Patents, much less one that incorporates a temporal requirement. Heartland's attempt to import a temporal limitation ("at the time of formulation") into this claim term is therefore improper. Moreover, the term "selected" appears in the claims of the '299 and '557 Patents in phrases other than "selected to provide the concentrate with . . . ." For example, claim 1 of the '299 Patent requires the concentrate to include "up to about 10.0 percent buffer by weight *selected* from the group consisting of a potassium salt of an acid, a sodium salt of an acid, and combination thereof." (Ex. A, '299 Pat., at 37:28-30 (emphasis added).) Likewise, dependent claim 7 recites a concentrate of claim 1 "wherein the flavoring is *selected* from the group consisting of liquid flavorings, powdered flavorings, and combinations thereof." (*Id.* at 37:60-62 (emphasis added).) Thus, construing "selected" to incorporate the special limitation as proposed by Heartland in some instances but not others runs counter to the settled principle that "a claim term should be construed consistently with its appearance in other places in the same claim or in other claims of the same patent." *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001). Furthermore, the claims at issue are *product* claims, not *method* claims, which makes importing an arbitrary temporal limitation into them all the more inappropriate.

The claim term "selected" is a common word that means "chosen" or "picked" and requires no special construction.

C. The "About" Terms Should Not Be Construed Through the Use of Arbitrary Rounding Principles.

Disputed Claim Terms	Kraft's Proposed Construction	Heartland's Proposed Construction
"a pH of about 1.9 to about 2.4" ’299 Patent, claims 1, 18; ’557 Patent, claim 1	Ordinary and customary meaning as understood by one of ordinary skill in the art	"a pH of 1.9 to 2.4 when rounded to two significant figures"
"a pH of less than about 2.4" ’557 Patent, claims 15, 23		"a pH that is less than 2.4 when rounded to two significant figures"
"about 65 percent water by weight" ’299 Patent, claims 1, 18; ’557 Patent, claims 1, 15, 23		"65 percent water by weight when rounded to two significant figures"
"up to about [10.0/3.0/10] percent buffer by weight" ’299 Patent, claims 1, 18; ’557 Patent, claims 1, 15, 23		"a quantity of buffer that is greater than zero and less than or equal to [10.0/3.0/10] percent when rounded to two significant figures"

The term "about" appears in several places throughout the claims of the ’299 and ’557 Patents. Kraft submits that "about" requires no construction beyond its ordinary and customary meaning. Heartland suggests that some—though not all—of the phrases in which "about" appears (for example, "a pH of about 1.9 to about 2.4" in claims 1 and 18 of the ’299 Patent and claim 1 of the ’557 Patent) should be construed to require the "round[ing] to two significant figures" of the numerical values that immediately follow "about" ("1.9" and "2.4" in the example). Thus, under Heartland's proposed construction, the phrase "a pH of about 1.9 to about 2.4" would encompass a pH of 2.44 (2.4 when rounded to two significant figures) but not 2.45 (2.5 when rounded to two significant figures).

The Federal Circuit has repeatedly stated that the use of a term such as "about" avoids a "strict numerical boundary to the specified parameter." *Central Admixture Pharmacy Servs.,*

Inc. v. Advanced Cardiac Solutions, P.C., 482 F.3d 1347, 1355-56 (Fed. Cir. 2007) (quoting *Ortho-McNeil Pharm., Inc. v. Caraco Pharm. Labs., Ltd.*, 476 F.3d 1321, 1326 (Fed. Cir. 2007)); *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1217-18 (Fed. Cir. 1995). In construing a claim, the court may not artificially impose "whatever additional precision or specificity is necessary to facilitate a comparison between the claim and the accused product." *PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1355 (Fed. Cir. 1998). "Rather, after the court has defined the claim with *whatever specificity and precision is warranted* by the language of the claim and the evidence bearing on the proper construction, the task of determining whether the construed claim reads on the accused product is for the finder of fact." *Id.* (emphasis added).

To that end, the Federal Circuit and other courts have regularly construed the term "about" according to its ordinary meaning of "approximately."[7] *See Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1369-70 (Fed. Cir. 2005) (holding that "about" should have been given its ordinary meaning of "approximately"); *Conoco, Inc. v. May Dep't Stores Co.*, 46 F.3d 1556, 1561 n.2 (Fed. Cir. 1994); *In re Brimonidine Patent Litig.*, 666 F. Supp. 2d 429, 338 n.7 (D. Del. 2008); *Unigene Labs., Inc. v. Apotex Inc.*, 2008 U.S. Dist. LEXIS 66005, at *27 (S.D.N.Y. Aug 28, 2008); *Amazin' Raisins Int'l, Inc. v. Ocean Spray Cranberries, Inc.*, 2007 U.S. Dist. LEXIS 60808, at *32 (D. Mass. Aug. 20, 2007); *Novartis Pharms. Corp. v. Apotex Corp.*, 2006 U.S. Dist. LEXIS 10130, at *29-30 (S.D.N.Y. Mar. 13, 2006). Indeed, courts have specifically declined the invitation to do what Heartland urges here—"arbitrarily construe

[7] Kraft submits that construing "about" as "approximately" is unnecessary. There is no need to resort to a dictionary definition where the term is sufficiently clear. *W.E. Hall Co. v. Atlanta Corrugating, LLC*, 370 F.3d 1343, 1350 (Fed. Cir. 2004); *see also U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (claim construction is "not an obligatory exercise in redundancy").

'about' through use of rounding principles." *Biopolymer Eng'g, Inc. v. Immunocorp*, 2007 U.S. Dist. LEXIS 94207, at *30-31 (D. Minn. Dec. 21, 2007).

There is nothing in the common specification of the '299 and '557 Patents that is inconsistent with the ordinary meaning of "about." The specification does not impose any precise numerical limitations on the term. Nor does the specification suggests that the inventors acted as their own lexicographers to provide a meaning for the term "about" that is different from the ordinary meaning of the term. *See Merck*, 395 F.3d at 1370-72 (adopting ordinary meaning of "about" where no specific definition provided in specification).

The prosecution history does not support Heartland's proposed constructions. Although "a patentee may limit the meaning of a claim term by making a clear and unmistakable disavowal of scope during prosecution," *Cohesive Techs., Inc. v. Waters Corp.*, 543 F.3d 1351, 1361 (Fed. Cir. 2008) (internal quotation marks and citations omitted), there was no such "clear and unmistakable" disavowal here. Kraft did not, for example, "clearly characteriz[e] the invention in a way to try to overcome rejections based on prior art." *Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed. Cir. 2008) (internal citations omitted). In fact, Kraft did not attempt to distinguish the claimed liquid beverage concentrates from the prior art based on pH or amount of water or buffer. Instead, in order to distinguish the "Braun" reference, which disclosed calcium-supplemented beverage concentrates and which served as the basis for the examiner's rejection, Kraft amended the claims to exclude calcium as a possible source of the buffer component. (Ex. B, '299 File Hist., at HFPG0330347.) Specifically, Kraft amended the claims to require the buffer component to be selected from a particular "group": (1) "a potassium salt of an acid," (2) "a sodium salt of an acid," or (3) "combination thereof." (*Id.*) Kraft argued that "one of ordinary skill in the art would not have a reason to replace the calcium sources with

a buffer selected from [that] group . . . because doing so would render Braun . . . unsatisfactory for its intended purpose (i.e., calcium supplementation)." (*Id.* at HFPG0330357.) Kraft did not try to distinguish Braun on any other basis, such as pH or amount of water or buffer.

Moreover, under Kraft's proposed constructions, the term "about" carries its ordinary and customary meaning throughout the claims of the '299 and '557 Patents. This adheres to the principle that "a claim term should be construed consistently with its appearance in other places in the same claim or in other claims of the same patent." *Rexnord*, 274 F.3d at 1342. In contrast, under Heartland's proposed constructions, the term "about" would be given precise numerical limits in some instances but not others.[8] The Court should apply the ordinary and customary meaning of "about" consistently each time the term appears in the claims.

D. The Terms "Shrinkage Rate" and "Shrinkage Ratio" Are Not Indefinite.

Disputed Claim Term	Kraft's Proposed Construction	Heartland's Proposed Construction
"shrinkage rate" '472 Patent, claim 10	Ordinary and customary meaning as understood by one of ordinary skill in the art	This language fails to inform, with reasonable certainty, those skilled in the art about the scope of the alleged invention.
"shrinkage ratio" '472 Patent, claim 11		

The terms "shrinkage rate" and "shrinkage ratio" appear in dependent claims 10 and 11 of the '472 Patent, respectively. Heartland suggests that this language is indefinite. Quite to the contrary, "shrinkage rate" and "shrinkage ratio" are both commonly-used terms in the art of

[8] For example, in claim 1 of the '557 Patent, the term "about" is used in the following limitations besides those addressed by Heartland's proposed constructions: "*about* 15 to *about* 30 percent acid by weight," "*about* 1 to *about* 30 percent flavoring by weight," "a viscosity of *about* 1 to *about* 75 cP when measured at 20°C," and "a concentration such that, when diluted at a ratio of *about* 1:75 to 20 to *about* 1:160 to provide a beverage, the concentrate delivers *about* 0.01 to *about* 0.8 percent acid by weight of the beverage made by the flavored beverage concentrate." (Ex. C, '557 Pat., at 37:11-37 (emphasis added).) Presumably, Heartland agrees that the term "about" in these limitations should be construed according to its ordinary meaning and without reference to general rounding principles. There is no reason to construe "about" any differently in the disputed phrases.

shrink-wrap packaging and are readily understood by a POSITA. "Shrinkage rate" and "shrinkage ratio" are simply properties of the shrink-wrap material used in the invention of the '472 Patent. In fact, these terms appear in articles and glossaries published before the filing date of the '472 Patent and available as early as 1981. Finally, Dr. Paul Singh, who is a POSITA, is familiar with these terms and their meanings, as evidenced by his declaration (attached as Ex. I).

A POSITA would understand that the term "shrinkage rate" describes a characteristic of the shrink-wrap material suitable for use in the invention of the '472 Patent; specifically, the measurable rate at which the material shrinks during the application process. (Ex. I, Singh Decl., ¶ 16.) This rate depends on the type of material, the temperature applied to the material, and the length of time the material is subject to that temperature. (*See* Ex. J, Liu, at 517; Ex. K, Soroka, *Fundamentals*, at 231.) The invention of the '472 Patent comprises a container of an irregular shape (one incorporating a "circumference variation"). (Ex. D, '472 Pat., at 2:46-51.) As Dr. Singh's declaration explains, the shrink-wrap sleeve must be made of a material that is capable of displaying attractive advertising when shrunk onto the irregularly shaped container and is durable enough to withstand constant deformation. (Ex. I, Singh Decl., ¶ 16.) Thus, only certain types of shrink-wrap material can be used on the container—those with a shrinkage rate of about 75 percent to about 85 percent, i.e., those that shrink by about 15 to about 25 percent. (Ex. D, '472 Pat., at 2:62-64.)

Likewise, the term "shrinkage ratio" describes an inherent property of the shrink-wrap material used in the invention of the '472 Patent. The term is defined in the *Illustrated Glossary of Packaging Terminology*, with which Dr. Singh and other skilled artisans are familiar. (Ex. I, Singh Decl., ¶ 18.) Specifically, "shrinkage ratio" describes the ratio between the amount of shrink in two perpendicular directions of the shrink wrap—one known as the "machine

direction" and the other as the "cross direction." (Ex. L, Soroka, *Glossary*, at 199.) The specification of the '472 Patent states that "[t]he shrink wrap sleeve can have a . . . shrinkage ratio of about 2:1." (Ex. D, '472 Pat., at 2:62-64.) Thus, from the description in the specification, it is clear that the term "shrinkage ratio" is a known characteristic of the types of shrink-wrap sleeves suitable for use in the invention of the '472 Patent.

As Dr. Singh confirms in his declaration, both "shrinkage rate" and "shrinkage ratio" are measurable phenomena known to a POSITA. These terms should be construed to carry their ordinary and customary meaning in the art. Moreover, because they inform a POSITA, such as Dr. Singh, of the scope of the claimed subject matter with reasonable certainty, this Court should find that the terms are not indefinite.

E. The Preamble of Claim 1 of the '472 Patent Is Limiting.

Disputed Claim Term	**Kraft's Proposed Construction**	**Heartland's Proposed Construction**
Preamble '472 Patent, claim 1	Limiting	The preamble is not a limitation.

The preamble of claim 1 of the '472 Patent, "[a] container containing a liquid concentrate and configured for squeezing to dispense a jet of the liquid concentrate," is limiting because it recites essential structure of the claim and is necessary to give the claim life, meaning, and vitality. *See Catalina Mktg. Int'l Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). The distinct structural characteristic of the invention—"configured for squeezing to dispense a jet of the liquid concentrate"—is highlighted as important by the specification and was clearly relied upon by the applicants during prosecution to distinguish the claimed subject matter from the prior art. Therefore, the Court should find that the preamble is limiting.

Whether the preamble of a claim is limiting "can be resolved only on review of the entirety of the [record] to gain an understanding of what the inventors actually invented and

intended to encompass by the claim." *Corning Glass Works v. Sumitomo Electric USA, Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989). A preamble is not limiting "where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention"; however, a preamble *is* limiting "where it recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim." *Catalina Mktg. Int'l*, 289 F.3d at 808. While there is no "litmus test" for meeting this threshold, a number of "guideposts" have emerged. *Id*. For example, the preamble is limiting when it "recites particular structure or steps that are highlighted as important by the specification." *Proveris Sci. Corp. v. Innovasystems, Inc.*, 739 F.3d 1367, 1372 (Fed. Cir. 2014) (citing *Catalina Mktg. Int'l*, 289 F.3d at 808). In addition, "clear reliance" on the preamble during prosecution to distinguish the invention from the prior art "transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention." *Id.* at 809.

Here, the description in the specification of the '472 Patent shows that the preamble language, "[a] container containing a liquid concentrate and configured for squeezing to dispense a jet of the liquid concentrate," recites a distinct structural characteristic of the invention. That structural characteristic—"configured for squeezing to dispense a jet of the liquid concentrate"—is "highlighted as important by the specification." *See Proveris Sci.*, 739 F.3d at 1372. The specification states:

> [C]ontainer 10 can include desirable properties, for example, [1] to consistently discharge[,] across a range of squeezed forces, generally consistent discharge with the same force without significant dependence on the amount of liquid concentrate in the container, [2] a substantially dripless or leak proof outlet opening, [3] a jet that minimizes splashing when the liquid concentrate enters another liquid, [4] a jet that maximizes mixing between the liquid concentrate and the other liquid. The container 10 utilizes some or all of these properties *while dispensing a jet of the liquid concentrate* into a target container having a target liquid therein.

(Ex. D, '472 Pat., at 4:33-44 (emphasis added).) The specification describes no other mode of dispensing the concentrate from the container other than in a "jet."

Furthermore, the prosecution history demonstrates a "clear reliance" on the preamble "to distinguish the claimed invention from the prior art." *See Catalina Mktg. Int'l*, 289 F.3d at 809. In response to an obviousness rejection, the applicants argued, *inter alia*, that "[m]issing from the Office action is any identification of a container, including the shrink wrap sleeve as claimed, which is configured to dispense a jet of a liquid concentrate." (Ex. E, '472 File Hist., at HFPG0326992.) The applicants explained that "[n]ot every squeezable container opening will dispense a jet when the container is squeezed." (*Id.*) "For example, a very wide mouth opening . . . will not dispense a jet when the container is squeezed. Similarly, a very small mouth opening can be configured for dispensing drops, or a spray or mist. As yet another example, a toothpaste tube is squeezable but does not dispense a jet." *Id.* These arguments indicate a "clear reliance" on the preamble to distinguish the prior art.

Because the preamble of claim 1 of the '472 Patent recites an essential structural characteristic and gives the claim life, meaning, and vitality, the preamble is limiting.

V. CONCLUSION

For the foregoing reasons, Kraft respectfully requests that this Court find that the disputed claim terms of the '299, '557, and '472 Patents do not require construction beyond their ordinary and customary meaning.

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CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the foregoing was served on all counsel of record, by the Court's electronic filing system, this 17th day of November, 2015.

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