United States District Court,
E.D. Wisconsin.

COOPER INDUSTRIES INC,
Plaintiff.
v.
ASEA BROWN BOVERI INC., and ABB Inc. d/b/a ABB Power T & D Company, Inc,
Defendants.

April 2, 2005.

Brady J. Fulton, David J. Sheikh, Thomas G. Scavone, Niro Scavone Haller & Niro, Chicago, IL, Bruce C. O'Neill, Diane Slomowitz, Fox O'Neill & Shannon SC, Milwaukee, WI, for Plaintiffs.

Adam K. Mortara, Mark E. Ferguson, Steven E. Derringer, Bartlit Beck Herman Palenchar & Scott LLP, Chicago, IL, Kenneth R Nowakowski, Pamela M. Schmidt, Whyte Hirschboeck Dudek SC, Milwaukee, WI, for Defendants.

DECISION AND ORDER

ADELMAN**, J.**

Plaintiff Cooper Industries, Inc. alleges that defendants Asea Brown Boveri, Inc. and ABB, Inc. d/b/a ABB Power T & D Company, Inc. infringed various claims of U.S. Patents 6,037,537 (the " '537 patent"), 6,184,459 (the " '459 patent"), 6,389,986 (the " '986 patent"), and 6,613,250 (the " '250 patent"), which patents relate to vegetable-based dielectric fluids used in power equipment, particularly transformers. In this decision, I construe the patents' claims pursuant to Markman v. Westview Instruments, Inc., 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996).

I. PRINCIPLES OF CLAIM CONSTRUCTION

Patent claims define and provide notice of the patentee's proprietary interest. Under *Markman,* I must determine the scope of the patentee's proprietary interest. *Id*. at 372. Absent a compelling reason to do otherwise, I give claim language its ordinary and accustomed meaning as understood by a person having ordinary skill in the art. *See* PSC Computer Prods., Inc. v. Foxconn Int'l, Inc., 355 F.3d 1353, 1359 (Fed.Cir.2004). When construing claim language, I first look to the intrinsic evidence, which consists of the claims, the specification, and the prosecution history. *See* Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). Intrinsic evidence forms part of the public record upon which third parties rely, and "is the most significant source of the legally operative meaning of the disputed claim language." *Id*. Other types of evidence "worthy of special note" are encyclopedias, treatises and dictionaries. *Id*. at 1584 n. 6. These are "objective resources that serve as reliable sources of information" concerning the understanding of claim language by a person of ordinary skill in the art. Tex. Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1203 (Fed.Cir.2002).

When intrinsic evidence does not resolve the issue, I may rely on extrinsic evidence, such as expert testimony, "for background and education on the technology implicated by the patent." Key Pharm. v. Hercon Labs., Corp., 161 F.3d 709, 716 (Fed.Cir.1998); *see also* Digital Biometrics, Inc. v. Identix, Inc., 149 F.3d 1335, 1344 (Fed.Cir.1998) (noting that "if after consideration of the intrinsic evidence there remains doubt as to the exact meaning of the claim terms, consideration of extrinsic evidence may be necessary to determine the proper construction"). But "[i]n those cases where the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper." Vitronics Corp., 90 F.3d at 1583; *see also* Phillips Petroleum Co. v. Huntsman Polymers Corp., 157 F.3d 866, 870 (Fed.Cir.1998) (stating that "[w]hen the intrinsic evidence unambiguously delineates the scope of the patent, resort to extrinsic evidence, including expert testimony, is unnecessary").

II. CLAIMS AND CLAIM TERMS IN QUESTION

I list below the claims and claim terms at issue and the contested language.

'537 Patent-Claim 19

A method of using a transformer comprising the step of employing an *essentially food grade dielectric fluid* comprising *a vegetable oil having at least one degree of unsaturation* and a fire point above 300 (deg.) C.

'537 Patent-Claim 22

The method of claim 19, *further comprising an oxygen scavenging material in contact with the dielectric fluid*.

'537 Patent-Claim 25

A transformer including a tank housing a transformer core/coil assembly, comprising: *an essentially food grade dielectric insulating fluid* surrounding said core/coil assembly, said fluid comprising a vegetable oil; and *means for reducing exposure of the vegetable oil to oxygen*.

'459 Patent-Claim 19

A method of using a transformer comprising the step of employing in the transformer *a dielectric fluid that is essentially a natural food product,* the *dielectric fluid consisting essentially of a vegetable oil having at least one degree of unsaturation* and a fire point of 300 (deg.) C., wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100 (deg.) C., and less than 110 cSt at 40 (deg.) C.

'459 Patent-Claim 22

The method of claim 19, further comprising an oxygen scavenging material in contact with the dielectric fluid.

'459 Patent-Claim 24

A transformer including a tank housing a transformer core/coil assembly, comprising: a dielectric insulating fluid surrounding said core/coil assembly, *wherein said dielectric fluid is essentially a natural food product and consists essentially of a vegetable oil,* wherein the vegetable oil has a viscosity of between 2 and 15 cSt

at 100 (deg.) C., and less than 110 cSt at 40 (deg.) C.; and means for reducing exposure of the vegetable oil to oxygen.

'986 Patent-Claim 1

A method of using an electrical device comprising employing in said device *a dielectric fluid consisting essentially of at least one vegetable oil, wherein said vegetable oil is substantially free of chlorinated compounds* and has a viscosity between 2 and 15 cSt at 100 (deg.) C., and less than about 100 cSt at 40 (deg.) C., and *wherein said dielectric fluid is food grade*.

'986 Patent-Claim 9

The method of claim 1, *wherein said dielectric fluid further comprises an antioxidant compound*.

'986 Patent-Claim 23

A method of retrofilling an electrical device, comprising; (a) removing an existing dielectric fluid from the device; (b) drying the device; and (c) replacing the existing dielectric fluid with *a food grade dielectric fluid consisting essentially of one or more vegetable oils* that are *free of chlorinated compounds,* wherein said vegetable oils have a viscosity between about 2 and about 15 cSt at 100 (deg.) C., and less than about 110 cSt at 40 (deg.) C.

'250 Patent-Claim 1

A method of using an electrical device comprising employing in said device *a food grade dielectric fluid* consisting essentially of *an oleate modified vegetable oil,* and wherein said fluid is *substantially free of chlorinated compounds* and has a viscosity between 2 and 15 cSt at 100 (deg.) C., and less than about 100 cSt at 40 (deg.) C.

'250 Patent-Claim 5

The method of claim 1, *wherein said dielectric fluid further comprises an antioxidant compound*.

III. CONSTRUCTION OF DISPUTED CLAIM LANGUAGE

"Essentially Food Grade Dielectric Fluid" and "Food Grade Dielectric Fluid"

Plaintiff argues that "essentially food grade dielectric fluid" means a dielectric fluid that is "mostly but not entirely composed of substances having non-toxic and non-biologically hazardous qualities making them suitable for use in food or food processing." (Pl.'s Br. at 20.) Plaintiff also argues that "food grade" is understood in the industry to mean a substance having non-toxic and non-biologically hazardous qualities. (*Id*. at 21.) Defendants argue that I should construe food grade "to exclude any dielectric fluid having a total antioxidant content above 0.02 wt.% or containing aromatic compounds, halogenated hydrocarbons, or alkylmethacrylates." (Defs.' Br. at 53.)

I first address whether "food grade dielectric fluid" includes aromatic compounds, halogenated hydrocarbons, and alkylmethacrylates. I look first to the intrinsic evidence including the claims, the specification and the prosecution history. *See* Vitronics Corp., 90 F.3d at 1582. With respect to the three compounds at issue, the prosecution histories provide the most interpretive assistance. *See* Grain Processing

Corp. v. Am. Maize-Products Co., 840 F.2d 902, 908 (Fed.Cir.1988) (stating that "[a]ll claims must be construed in light of the specification and the prosecution history"). During the prosecution of the '986 patent, the Examiner rejected claims 15-31 and 38 as obvious under 35 U.S.C. s. 103(a) in light of U.S. Patent No. 4,734,824 to Sato et al. ("the Sato reference"). (Defs.' Ex. 9 at C000782-83.) In an attempt to overcome the Examiner's rejection, plaintiff argued that Sato:

teaches that aromatic additives are required to provide a suitable vegetable oil dielectric fluid. In contrast, the present invention provides a dielectric fluid that consists essentially of an environmentally safe vegetable oil with specific viscosity properties. This dielectric fluid does not require aromatic additives to increase its stability. The Sato '824 reference fails to teach or suggest such a dielectric fluid. In addition, based on the teachings of the '824 patent, one of ordinary skill in the art would not be led to modify a vegetable oil composition to eliminate the aromatic compounds.

(Pl.'s Ex. 9 at C000797.) Plaintiff's argument did not persuade the Examiner, who maintained the obviousness rejection. (Id. at C000803.) Plaintiff appealed to the Board of Patent Appeals and Interferences, arguing:

The Sato '824 reference teaches that aromatic additives are required to provide a suitable vegetable oil dielectric fluid. *The aromatics, which have ring structures related to benzene, are well known to be toxic and non-biodegradable, and, if used as an additive in the dielectric fluid of the invention, would be expected to alter its food grade character*. Therefore, Appellants respectfully submit that introduction of *an aromatic compound* would materially change the characteristics of the presently claimed dielectric fluid composition from food grade to non-food grade. For this reason, *the aromatic compounds* are excluded by the recitation of consisting essentially of in the present claims, as well as by the characterization of the dielectric fluid of the composition as a food grade material.

The present invention provides a dielectric fluid that does not require aromatic additives to increase stability. The Sato '824 reference fails to teach or suggest such a dielectric fluid. In addition, one of ordinary skill in the art would not be led to modify a vegetable oil compound to eliminate the aromatic compounds.

(Id. at C000828-29) (emphasis added).

Based on plaintiff's arguments, defendants contend that a person having ordinary skill in the art would understand that food grade dielectric fluid cannot include aromatics, (Defs.' Br. at 11-12, 36-39), and that plaintiff disavowed aromatics. *See* Standard Oil Co. v. Am. Cyanamid Co., 774 F.2d 448, 452 (Fed.Cir.1985) (noting that when interpreting claims, a court looks to the prosecution history "to determine whether the applicant clearly and unambiguously disclaimed or disavowed [a particular interpretation] during prosecution in order to obtain claim allowance") (citation omitted). Plaintiff responds that its representation to the Patent Trademark Office ("PTO") must be placed in context, i.e., an attempt to distinguish between toxic aromatics as disclosed in Sato and non-toxic aromatics that plaintiff asserts are a component of its dielectric fluid. (Pl.'s Br. at 25.) Defendants reply that this response is a post-issuance rationalization, and that plaintiff "did not articulate any such distinction in the PTO." (Defs.' Br. at 11.)

Although both parties can find support for their arguments in the prosecution history, I conclude that plaintiff did not disavow all aromatics and that food grade dielectric fluid includes non-toxic aromatics. While plaintiff could have more clearly distinguished between Sato's toxic aromatics and the claimed inventions' non-toxic aromatics, a person of ordinary skill in the art would understand that plaintiff

differentiated between the two. I reach this conclusion partly because dependent claim 10 of the '986 patent and dependent claim 6 of the '250 patent include non-toxic aromatic, anti-oxidants such as BHA (butylated hydroanisole), BHT (butylated hydrotoluene), THBP (tetrahydrobutrophenone), and TBHQ (tertiary butylhydroquinone). The Examiner would not have issued these claims had he understood plaintiff to have surrendered all aromatics.

In response, defendants suggest that the Examiner "overlooked" the above dependent claims and/or that plaintiff "decided not to disclose to the PTO Examiners that 'aromatic compounds' were recited in" such claims. (Defs.' Br. at 12-13.) Defendants state that plaintiff "could have articulated a distinction among different *types* of aromatics ... but did not do so." (Defs.' Sur-Reply at 4) (emphasis in original).

I am unpersuaded by defendants' response. Although, as stated, plaintiff might have more explicitly distinguished among types of aromatics, it was not obliged to do so. Title 35 U.S.C. s. 112 requires a patentee to enable "persons of ordinary skill in the art to recognize that [the applicant] invented what is claimed." Union Oil Co. of Cal. v. Atl. Richfield Co., 208 F.3d 989, 997 (Fed.Cir.2000). A person having ordinary skill in the art would recognize that plaintiff claimed a food grade dielectric fluid that contained non-toxic aromatics. Defendants offer no evidence that plaintiff withheld information from the PTO, and I must presume the Examiner properly discharged his duties. *See* Amgen Inc. v. Hoechst Marion Roussel, Inc., 314 F.3d 1313, 1327 (Fed.Cir.2003) (noting that position of party challenging validity of patent is "undermined because asserted claims issued. We must presume the examiner did his job"); Am. Hoist & Derrick Co. v. Sowa & Sons, Inc. 725 F.2d 1350, 1359 (Fed.Cir.1984) (holding that "[w]hen no prior art other than that which was considered by the PTO examiner is relied on by the attacker, he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents").

Although the phrase food grade dielectric fluid includes non-toxic aromatics, it excludes halogenated hydrocarbons and alkylmethacrylates. This is so because plaintiff disclaimed these materials during prosecution. In response to a 35 U.S.C. s. 102(b) anticipation rejection based on U.S. Patent No. 4,806,276 to Maier, plaintiff wrote to the Examiner:

The Maier '276 reference proposes using halogenated hydrocarbons and surfactant additives in dielectric oils to enhance their longevity. The presently claimed invention does not incorporate such additives. In addition, the presently claims [sic] dielectric fluid *does not include halogenated compounds,* which are generally considered to be environmentally unsafe....

(Pl.'s Ex. 9 at C000796) (emphasis added). In addition, in its brief to the Board of Patent Appeals and Interferences, plaintiff asserted that halogenated compounds "are well known to be toxic and environmentally unsafe, and, if used as an additive in the dielectric fluid of the invention, would be expected to alter its food grade character." (Id. at C000826.) Therefore, argued plaintiff, "halogenated hydrocarbons are excluded by the recitation of consisting essentially of in the present claims, as well as the characterization of the dielectric fluid of the composition as a food grade material." (Id.) Concerning an alkylmethacrylate polymer, in response to a 35 U.S.C. s. 102(b) anticipation rejection based on Japanese Patent No. 61-260-503 (the "JP '503"), plaintiff wrote:

The JP '503 abstract describes a dielectric fluid including a vegetable oil and an alkylmethacrylate polymer.

This reference teaches that addition of an alkylmethacrylate polymer increases the reliability of the fluid. In contrast, the presently claimed invention is a dielectric fluid consisting essentially of a vegetable oil that is free of environmentally incompatible chlorine compounds. This dielectric fluid does *not* require polymeric additives to increase its reliability.

(Pl.'s Ex. 9 at C000795) (emphasis added). And, in its brief, plaintiff noted that like halogenated compounds, alkylmethacrylates are toxic, and thus, would alter the food grade character of the dielectric fluid of the invention. "For this reason," wrote plaintiff, "the alkylmethacrylates are excluded by the recitation of consisting essentially of in the present claims, as well as by the characterization of the dielectric fluid of the composition as a food grade material." (Id. at C000825.)

Having concluded that food grade dielectric fluid includes non-toxic aromatics like the aromatic anti-oxidants identified in claim 10 of the '986 patent and claim 6 of the '250 patent, but not halogenated hydrocarbons and alkylmethacrylates, I now determine whether, as plaintiff asserts, food grade dielectric fluid has non-toxic and non-biologically hazardous qualities or if, as defendants argue, food grade dielectric fluid excludes any dielectric fluid having a total antioxidant content above 0.02 wt.%.

In support of its proposed construction, plaintiff points to sections of the specifications. The "Background of the Invention" section states that "[i]t is a general object of the present invention to provide electrical equipment utilizing an insulating liquid that is non-toxic, biodegradable, relatively nonflammable, innocuous to the environment." ('537 patent, col. 1, lines 64-67); (Pl.'s Br. at 23.) This section also notes that "because of environmental concerns, it has become desirable to provide a dielectric fluid that has minimal effect on the environment and degrades quickly and easily enough so that spills will not contaminate the soil or water table for any significant period of time, nor represent a significant hazard prior to the natural biodegradable process." ('537 patent, col. 2, lines 52-57.) The "Summary of the Invention" section states that "[b]ecause the present composition is essentially a natural food product, it poses no environmental or health safety hazard." ('537 patent, col. 3, lines 37-39); (Pl.'s Br. at 23); (Pl.'s Resp. to Defs.' Sur-Reply at 7-8); (*see also* '986 patent, col. 2, lines 53-60); ('250 patent, col. 2, lines 58-65.)

Plaintiff noted in the prosecution histories that the addition of a toxic substance to the claimed dielectric fluid would alter its basic food grade quality and result in a fluid that was harmful to the environment. Indeed, in prosecuting the '537 patent, plaintiff attempted to claim a "non-toxic dielectric ... fluid," but under 35 U.S.C. s. 112, para. 1, the Examiner rejected the attempt, stating that "non-toxic dielectric ... fluid is not defined since the specification does not provide any criteria or reference to any recognized environmental or technical standards to qualify and quantify the acceptance of the fluid as being non-toxic and one skilled in the art ... would not be able to make and/or use the invention." (Pl.'s Ex. 3 at C000276.) Plaintiff initially responded that "persons skilled in the art would well understand the meaning of the term 'non-toxic' in the context of the present invention." (*Id*. at C000295.) The Examiner thought otherwise, and maintained his s. 112 rejection, stating:

Examiner directs [plaintiff's] attention to the fact that even non toxic combination of materials may include certain amounts of toxic additives that are permissible for particular use. The criteria of toxicity of industrial materials that may have impact on environment are regulated by agencies like EPA and local authorities. For example, [plaintiff's] disclosed transformer coolant includes antioxidants that by itself may be toxic but in ammounts [sic] that are permissible by EPA standards and as such the coolant may be considered as non toxic. At the same time, such a coolant may be considered as toxic by the Food and Drug Administration. Therefore, the non toxicity of the disclosed coolant would not be obvious to the person skilled in the art if

the criteria of non-toxic material is not clearly defined.

(*Id*. at C000319, C000307.) Thereafter, the Examiner interviewed plaintiff by phone and withdrew the s. 112 rejection. According to the interview summary, "the limitation of non-toxicity of the fluid will be replaced with dielectric insulating fluid comprising vegetable oil an [sic] additives being essentially a food grade." (*Id*. at C000332.) In its "Amendment After Final Rejection," plaintiff wrote that during the phone interview, plaintiff and the Examiner discussed the s. 112 rejection and:

Without reaching agreement as to the term "non-toxic" in the present claims, the Examiners suggested that the rejection would be obviated by deleting the term "non-toxic" from the claims, and by instead adding the phrase "essentially food grade" thereto. While the Examiners suggested specifying that the antioxidant is essentially food grade, Applicants have opted to set forth that the dielectric fluid is essentially food grade.

(*Id*. at C000337-38.)

The Examiner accepted the modifying phrase food grade as satisfying s. 112 whereas he rejected non-toxic. Therefore, defining food grade as simply having non-toxic qualities adds little and, indeed, would impermissibly allow plaintiff to recapture what it could not obtain during prosecution. FN1 Because the specifications of the '537, '986, and '250 patents do not define food grade dielectric fluid, I may infer that the Examiner believed a person with ordinary skill in the art would be able to discern its definition from the intrinsic record and the relevant technologic context.

Because food grade dielectric fluid is not meant to be edible, Food and Drug Administration ("FDA") regulations and the Food Chemical Codex are of little interpretive value. Plaintiff argues that defendants' use of food grade in its product literature indicates that the industry uses the term. However, defendants do not define the term or indicate how skilled artisans would understand it. Rather, the intrinsic record and technologic context provide the most interpretive assistance, and both indicate that the principal concern of the claimed invention is environmental safety. The specifications and prosecution histories place the claimed dielectric fluid in an environmental context and show that plaintiff repeatedly contrasted the positive environmental qualities of the claimed invention with the prior art. For example, in prosecuting the '537 patent, plaintiff noted environmental concerns related to PCBs and stated:

Through the present invention, Applicants have overcome the disadvantages and shortcomings associated with conventional insulating fluids. The inventive transformers utilize an insulating fluid which comprises a vegetable oil. The insulating fluid is essentially a natural food product, and poses *no environmental or health safety hazard*.

(Pl.'s Ex. 3 at C000340) (emphasis added). In responding to the Examiner's rejections based on no fewer than eight prior art references, plaintiff repeatedly distinguished the claimed invention by contending that the prior art did not teach or suggest an environmentally safe dielectric fluid. (*Id*. at C000263-65.) Similarly, plaintiff asserted in its '986 appeal brief that:

Food grade as used in the present specification means a material that does not include components that are toxic or otherwise biologically hazardous. If the dielectric fluid includes non-vegetable oil components, the amount and/or character of the non-vegetable oil component must be carefully selected to *preserve the environmentally safe nature* of the fluid. For this reason, any synthetic components that are toxic and/or would not be expected to naturally degrade in a reasonable amount of time would adversely affect the

environmentally safe nature of the dielectric fluid composition, and would not be useful as components for the composition.

(Pl.'s Ex. 9 at C000824-25) (emphasis added).

In the intrinsic evidence plaintiff consistently differentiated between the positive environmental qualities of the claimed dielectric fluid and the absence of same in the fluids described by the prior art, including mineral oils, PCBs and other environmentally hazardous substances. Thus, I conclude that a person having ordinary skill in the art would understand food grade dielectric fluid to mean a substance that presents no environmental or health safety hazard. FN2 Moreover, as indicated, a person having ordinary skill in the art would define "food grade dielectric fluid" as including non-toxic aromatics such as the aromatic anti-oxidants set forth in claim 10 of the '986 patent and claim 6 of the '250 patent, but excluding halogenated hydrocarbons and alkylmethacrylates. This definition is consistent with the intrinsic record and situates the claimed invention in its proper context.

Defendants' argument that food grade should be construed as having a total antioxidant content above 0.02 wt. % is unpersuasive. For this assertion, defendants rely on their technical expert, William Olson, who in turn relies on FDA regulations. But a dielectric fluid is not a food or a substance subject to FDA regulation. FDA regulations are not germane to the content of the term dielectric fluid just because the term food grade modifies the term dielectric fluid. Moreover, I do not read the Examiner's rejection of non-toxic and acceptance of food grade as requiring a quantified amount of anti-oxidants. No persuasive evidence requires such a quantification and would take the claimed invention out of its proper context.

Turning to the word "essentially," plaintiff urges that it means "mostly ... but not entirely." (Pl.'s Br. at 20.) Defendants assert that essentially means "necessarily food grade, i.e., which excludes any dielectric fluid having a total antioxidant content above 0.02 wt. % or containing aromatic compounds, halogenated hydrocarbons, and alkylmethacrylates." (Defs.' Br. at 54.) Words of degree such as substantially and essentially are commonly used in claim drafting. Nothing in the intrinsic record suggests that plaintiff is acting as its own lexicographer, providing a meaning for essentially that is not commonly used or accepted. Therefore, I may look to dictionaries for interpretive assistance. A review of dictionaries reveals multiple meanings. *The New Oxford American Dictionary* (2001) defines essentially as "used to emphasize the basic, fundamental, or intrinsic nature of a person, thing, or situation." *The American Heritage Dictionary of the English Language* (3d ed.1996) defines essentially as "something fundamental; something necessary or indispensable." Finally, *The Oxford English Dictionary* (2d ed.1989) defines essentially as "an essential attribute or constituent." These multiple meanings require that I consult the context of the claimed invention, namely the intrinsic record. *See* Tex. Digital Sys., Inc., 308 F.3d at 1203 (stating that "[b]ecause words often have multiple dictionary definitions, some having no relation to the claimed invention, the intrinsic record must always be consulted to identify which of the different possible dictionary meanings of the claim terms in issue is most consistent with the use of the words by the inventor"); *see also* Brookhill-Wilk 1 LLC v. Intuitive Surgical, Inc., 334 F.3d 1294, 1300 (Fed.Cir.2003) (noting that "[i]n construing claim terms, the general meanings gleaned from reference sources, such as dictionaries, must always be compared against the use of the terms in context, and the intrinsic record must always be consulted to identify which of the different possible dictionary meanings is most consistent with the use of the words by the inventor"). One of the purposes of the claimed inventions is to provide a dielectric fluid that is environmentally friendly. This purpose is accomplished, according to the specifications of the '537 and '459 patents, by providing for a composition that is "essentially a natural food product." ('537 patent, col. 3, lines 37-39); ('459 patent, col. 3, lines 37-39.) In this context, I construe essentially to mean that while the

dielectric fluid can contain components that are not food grade, the food grade quality of the claimed dielectric fluid as a whole is indispensable. In other words, the dielectric fluid cannot have components that render the fluid as a whole harmful or unsafe to the environment.

"Essentially a Natural Food Product"

Plaintiff asserts that I should construe the above phrase to mean a dielectric fluid that is mostly but not entirely composed of substances that are derived from an agricultural source. (Pl.'s Br. at 31.) Plaintiff states that "[t]his definition unambiguously sets forth the ordinary and accustomed meaning of the term." (Pl.'s Reply Br. at 19.) Defendants argue that I should construe the phrase to mean that the entire dielectric fluid must be an edible food containing no synthetic ingredients. (Defs.' Br. at 59.) My previous definition of essentially applies here. Thus, I disagree with defendants that essentially means that the entire dielectric fluid must be a natural food product. Turning to the definition of natural food product, the specification of the '459 patent states "[b]ecause the present composition is essentially a natural food product, it poses no environmental or health safety hazard." ('459 patent, col. 3, lines 37-39.) Neither the '459's specification or prosecution history defines natural food product. But as with food grade, I believe that a person having ordinary skill in the art would understand the meaning of natural food product. *The American Heritage Dictionary of the English Language* (3d ed.1996) defines food as "material, usually of plant or animal origin, that contains or consists of essential body nutrients, such as carbohydrates, fats, proteins, vitamins, or minerals, and is ingested and assimilated by an organism to produce energy, stimulate growth, and maintain life." The *New Oxford American Dictionary* (2001) defines natural food as "food that has undergone a minimum of processing or treatment with preservatives." *Webster's Medical Desk Dictionary* (1986) defines natural food as "food that has undergone minimal processing and contains no preservatives or artificial additives (as synthetic flavorings)." Thus, I construe essentially a natural food product to mean a material of plant or animal origin that has undergone a minimal amount of processing or treatment with preservatives.

"Method of Using"

Defendants assert that I should construe the phrase "method of using" to exclude "manufacturing, offering for sale, selling, or importing" whatever is defined in the balance of claims 19 and 22 of the '537 patent, claims 19, 22, and 23 of the '459 patent, claim 1 of the '986 patent, and claims 1 and 5 of the '250 patent. (Defs.' Br. at 59-60.) Plaintiff argues defendants' interpretation fails to take into account defendants' alleged indirect infringement. (Pl.'s Reply Br. at 22.) A method of using claim identifies a series of acts or steps to be performed on an article or substance. Method claims usually employ gerundial phrases. *See* Robert C. Faber, *Landis on Mechanics of Patent Claim Drafting* s. 36-37 (3d ed.1990). In the present case, the claims in question are no different. For example, claim 19 of the '537 patents states: "A method of using a transformer comprising the step of *employing* in the transformer a dielectric fluid that is essentially a natural food product" (emphasis added). I agree with defendants' proposed definition to the extent that the claims in question claim a method of using, and not a method of "manufacturing, offering for sale, selling or importing." But I am also sensitive to plaintiff's concern that there is a distinction between direct and indirect infringement. At this point, my task is not to analyze infringement but I caution that my interpretation of method of using does not preclude a finding that defendants engaged in indirect infringement in the form of contributory or active inducement under 35 U.S.C. s.s. 271(b) and (c), by, for example, marketing, supplying, or selling its BIOTEMP(R) product.

"Having at Least One Degree of Unsaturation"

Plaintiff argues that I should construe the above language to mean that the average degree of unsaturation of

the fatty acid content of the vegetable oil or oils is at least one. (Pl.'s Reply Br. at 24.) Defendants argue that I should interpret the phrase to "require that every molecule of the vegetable oil in the dielectric fluid have at least one degree of unsaturation." (Defs.' Br. at 61.) Fats and oils, such as vegetable oil, are frequently referred to as triglycerides. Triglycerides possess three fatty acids that were esterified with glycerol. *See* Philip S. Bailey, Jr. and Christina A. Bailey, *Organic Chemistry* 370-71 (4th ed.1989). Thus, a vegetable oil is an ester of glycerol and fatty acids. A fatty acid consists of carbon, hydrogen and oxygen with a carboxyl group. *Id*. at 371. There are usually several carbon atoms present in a fatty acid. It is well known in the organic chemical arts that the presence of a multiple bond (e.g., double bond) between carbon atoms introduces a degree of unsaturation. *Id*. at 50. However, not all fatty acids have multiple bonds; a fatty acid can also be saturated, which means that the carbon atoms have all of the hydrogen they can secure and there is no more room for multiple bonding with other carbon atoms. Therefore, as plaintiff notes, the three fatty acids of triglycerides can either all be saturated, unsaturated, or a mixture of the two (e.g., two saturated, one unsaturated). FN3 Thus, I disagree with defendants' proposed construction that every molecule of the vegetable oil must have at least one degree of saturation and agree with plaintiff's and interpret the phrase "having at least one degree of unsaturation" to mean that the average degree of unsaturation of the fatty acid content of the vegetable oil is at least one.

Defendants argue that a person having ordinary skill in the art could not determine the exact degree of unsaturation from the specifications of the patents-in-suit. However, as plaintiff's technical experts point out, in 1995 there were at least two known methods in the art for determining the degree of unsaturation. Defendants' position ignores that knowledgeable persons skilled in the art bring their skills to patent documents. Apex Inc. v. Raritan Computer, Inc., 325 F.3d 1364, 1373 (Fed.Cir.2003) ("[C]laims are interpreted in light of the specification and with the knowledge of one of ordinary skill in the art.")

"Further Comprising an Oxygen Scavenging Material in Contact with the Dielectric Fluid"

Defendants contend that I should construe the above phrase to require an oxygen scavenging material that is not part of the dielectric fluid to be in contact with the dielectric fluid. (Defs.' Br. at 63.) Plaintiff argues that I should construe it to mean that the dielectric fluid composition contains an oxygen scavenging material that is a chemically active substance that consumes or deactivates oxygen in a system or mixture. (Pl.'s Br. at 30-31.) The specifications of the '537 and '459 patents discuss problems associated with the exposure of triglycerides to oxygen, including oxidative polymerization. The purpose of oxygen scavenging chemicals is to reduce the rate of the oxidative reaction by "dissolving an oxygen scavenging chemical in the vegetable oil" or by "providing a dry oxygen scavenging compound in the headspace." ('537 patent, col. 5, lines 1-5); ('459 patent, col. 5, lines 4-7.) With regard to the latter technique, the specifications state "[i]n order to prevent contact between the oxygen scavenging compound and the vegetable oil, it is preferred to contain such compound in an oxygen-permeable, oil- and moisture-impermeable polymer container." ('537 patent, col. 7, lines 51-56); ('459 patent, col. 7, lines 62-66.)

The meaning of oxygen scavenging material is well known in the industry. I agree with plaintiff that it means a chemically active substance that consumes or deactivates oxygen in a system or mixture. Defendants do not appear to contest this definition. The more difficult question is the meaning of "an oxygen scavenging material *in contact* with the dielectric fluid" as set forth in claim 22 of the '537 and '459 patents. Plaintiff contends that the material must be a part of the fluid and cites support in the specification for claim 23 of the '537 and '459 patent, which claims an oxygen scavenging material "dissolved in the dielectric fluid," and claim 24 of the '537 patent, which claims an oxygen scavenging material that is "contained within an oxygen permeable, fluid impermeable membrane." As defendants note, claim 22 of the

'537 and '459 patents could have been drafted more artfully. Nevertheless, I can discern how a person having ordinary skill in the art would understand the phrase. I agree with defendants that the claim language "oxygen scavenging material in contact with the dielectric fluid" requires the material not to be a part of the dielectric fluid, but to be in contact with the dielectric fluid. I define contact as it is ordinarily understood. The *American Heritage Dictionary of the English Language* (3d ed.1996) states that contact means "a coming together or touching, as of objects or surfaces; the state or condition of touching or of immediate proximity." To be in contact with the dielectric fluid does not mean that it becomes a part thereof. The in contact language of claim 22 contrasts with that of claim 23 of the '537 and '459 patents, which states that the oxygen scavenging material is "dissolved" in the dielectric fluid. When a compound is dissolved in a material, it becomes part of that material; but mere contact of the compound with the material does not make it a part of the material. Plaintiff asserts that "claim 22 does not contain a limitation which prohibits the oxygen scavenging material in contact with the dielectric fluid from also being part of the dielectric fluid." (Pl.'s Reply Br. at 27.) True enough, but neither the claim nor the intrinsic record suggests that in contact means that oxygen scavenging material is part of the dielectric fluid.

Thus, I construe an oxygen scavenging material in contact with the dielectric fluid to mean a chemically active substance that consumes or deactivates oxygen in the dielectric fluid and that is in contact with the dielectric fluid, but not part of it.

"Consisting Essentially of"

Independent claims 19 and 24 of the '459 patent, claims 1 and 23 of the '986 patent, and claim 1 of the '250 patent contain the phrase "consisting essentially of." Defendants argue that I should construe the phrase to exclude synthetic antioxidants and any other additive or ingredient that materially alters the basic and novel characteristics of what is claimed in the balance of the claims, particularly claim 19 of the '459 patent. (Defs.' Br. at 64.) Focusing on claim 19 of the '459 patent, plaintiff asserts that "consisting essentially of a vegetable oil" means that the dielectric fluid comprises one or more vegetable oils having the properties specified in the claim and any additional or unspecified ingredients that do not materially affect the basic and novel properties of the invention. (Pl.'s Br. at 35.) Claim 19 claims a dielectric fluid that is essentially a natural food product composed of a vegetable oil having at least one degree of unsaturation, a fire point above 300 (deg.) C., and a viscosity of between 2 and 15 cSt at 100 (deg.) C. and less than 110 cSt at 40 (deg.) C.

As the parties note, the phrase consisting essentially of is a term of art in patent law. In *PPG Indus. v. Guardian Indus. Corp.,* the Federal Circuit stated "[b]y using the term 'consisting essentially of,' the drafter signals that the invention necessarily includes the listed ingredients and is open to unlisted ingredients that do not materially affect the basic and novel properties of the invention." 156 F.3d 1351, 1354 (Fed.Cir.1998). Defendants' argument that the addition of synthetic antioxidants materially affects the basic and novel characteristics of the invention claimed in claim 19 of the '459 patent is unpersuasive. While defendants correctly observe that claim 19 claims a "dielectric fluid that is essentially a natural food product," the claimed food product is "essentially natural"-not entirely natural. More importantly, the '459 intrinsic record teaches the use of synthetic antioxidants ('459 patent, col. 4, lines 63-68, col. 5, lines 1-13); ('986 patent, col. 7, lines 59-67, col. 8, lines 1-16); ('250 patent, col. 7, lines 62-67, col. 8, lines 1-19) and synthetic antioxidants are claimed in dependent claims 10 and 6 of the '986 and '250 patents, respectively. ('986 patent, col. 7, lines 59-67, col. 8, lines 1-16); ('250 patent, col. 7, lines 62-67, col. 8, lines 1-19.) As plaintiff states, "the patents either expressly claim synthetic antioxidants as part of the invention or have specifications which teach that synthetic antioxidants are part of the invention." (Pl.'s Reply Br. at 27-28.)

I need not address whether, as plaintiff suggests, *Ex Parte* Hoffman, 12 U.S.P.Q.2d 1061 (Bd. Pat.App. & Interferences 1989) held that the phrase "consisting essentially of" cannot be used to exclude an element that is expressly claimed by a dependent claim. It makes little difference that in that case the Board of Patent Appeals and Interferences did not articulate a rule that "consisting essentially of" cannot exclude elements that are expressly claimed by dependent claims.

"Free of Chlorinated Compounds"

Claim 23 of the '986 patent claims a "food grade dielectric fluid consisting essentially of one or more vegetable oils that are free of chlorinated compounds." Plaintiff asserts that I should construe free of chlorinated compounds to mean the absence of a detectable amount of chlorinated compounds in the virgin vegetable oil. (Pl.'s Reply Br. at 30-31.) Plaintiff asserts that the presence of a particular compound is determined based on the detection limits of the equipment used to identify the compound. Therefore, free means no detectable amount. Defendants argue that I should interpret this limitation to exclude any dielectric fluid containing any chlorinated compound in any amount. (Defs.' Br. at 65-66.)

I agree with defendants and construe free of chlorinated compounds as indicating an absence of chlorinated compounds in the vegetable oil or oils in the dielectric fluid. The '986 specification contains language that appears to support plaintiff's position. It states that "any *significant* amount of a chlorinated fluid ... will negate many of the positive environmental attributes of the vegetable oil component." ('986 patent, col. 4, lines 58-62) (emphasis added). This language, however, lends support to claim 1 (and other claims) of the '986 patent, which require the vegetable oil to be "*substantially* free of chlorinated compounds" (emphasis added). The word substantially is not superfluous. There is a difference between being free of chlorinated compounds and substantially free of chlorinated compounds. When claim 23 is read in light of claim 1, the ordinary meaning of free of chlorinated compounds is that there are no chlorinated compounds. Moreover, this interpretation is consistent with the intrinsic record. For example, in distinguishing the JP '503 patent during the prosecution of the '986 patent, plaintiff wrote: "The present invention [i.e., '986 claimed invention] is a dielectric fluid consisting essentially of a *vegetable oil that is free of environmentally incompatible chlorine compounds*. The dielectric fluid does not require polymeric additives to increase its reliability." (Pl.'s Ex. 9 at C000795) (emphasis added).

"Substantially Free of Chlorinated Compounds"

Claim 1 of the '986 patent reads in part, "a dielectric fluid consisting essentially of at least one vegetable oil, wherein said vegetable oil is substantially free of chlorinated compounds." Claim 1 of the '250 patent states in part, "a food grade dielectric fluid consisting essentially of an oleate modified vegetable oil, and wherein said fluid is substantially free of chlorinated compounds." Plaintiff argues that I should construe this claim limitation to mean that the level of chlorinated compounds in the virgin oil, oils, or fluid is at or below standardized limits for such compounds as dictated by governmental or other recognized authority. (Pl.'s Reply Br. at 31.) Defendants assert that the limitation means that no measurable amount of any compound containing chlorine is detectable in the claimed vegetable oil. (Defs.' Br. at 65-66.)

The '986 and '250 specifications do not define substantially free, but do state:

When a vegetable oil or vegetable oil blend is combined with one or more synthetic oils, the amount and/or character of the non-vegetable oil component of the resulting blend should not interfere with the beneficial properties of the vegetable oil fluid. Thus, for example, any significant amount of a chlorinated fluid ... will

negate many of the positive environmental attributes of the vegetable oil component. Where such blends are employed, the blend should contain less than ... 20 percent by weight of a chlorinated fluid, preferably less than 5 weight percent, and more preferably less than 1 percent by weight.

('986 patent, col. 4, lines 53-67, col. 5, line 1); ('250 patent, col. 4, lines 57-67, col. 5, lines 3-5.) Thus, I construe the claim limitation substantially free of chlorinated compounds in claim 1 of the '986 patent to mean that the vegetable oil or oils contain an amount of chlorinated compounds that does not exceed twenty percent by weight of the chlorinated fluid. Regarding claim 1 of the '250 patent, I construe this claim limitation to mean that the dielectric fluid contains an amount of chlorinated compounds that does not exceed twenty percent by weight of the chlorinated fluid.

"Wherein Said Dielectric Fluid Further Comprises an Antioxidant Compound"

Claim 9 of the '986 patent and claim 5 of the '250 patent read: "The method of claim 1 wherein said dielectric fluid further comprises an antioxidant compound." The drafter wrote these claims in dependent format and they further define the dielectric fluid claimed in claim 1 of each patent. Defendants assert that I should construe this limitation to exclude any antioxidant compound that alters the basic and novel characteristics of the dielectric fluid defined in the balance of the claim where it appears and any underlying claim. Specifically, defendants argue that the antioxidant of claims 9 and 5 must be food grade; that is, be present in an amount not to exceed 0.02 wt.% and exclude aromatic compounds, halogenated hydrocarbons, and alkylmethacrylates. (Defs.' Br. at 66-67.) Plaintiff asserts that I should construe the limitation to mean the antioxidant is food grade, meaning non-toxic and non-biohazardous. (Pl.'s Reply Br. at 31-32.) As discussed above, both parties offer different constructions of food grade. I believe a person having ordinary skill in the art would understand the term "wherein said dielectric fluid further comprises an antioxidant compound" to mean an antioxidant that presents no environmental or health safety hazard. In addition, the antioxidant is a substance that can possess non-toxic aromatics, but does not possess halogenated hydrocarbons and alkylmethacrylates.

"Means for Reducing Exposure of the Vegetable Oil to Oxygen"

Plaintiff asserts that I should construe the above limitation to mean the structures, materials or acts described in the specifications of the '537 and '459 patents, and equivalents thereof, for reducing the exposure of the vegetable oil to oxygen. (Pl.'s Br. at 33.) Defendants do not appear to offer a competing construction. This limitation does not recite definite structure to perform the function, reducing exposure of the vegetable oil to oxygen, but employs classic means-plus-function language recognized under 35 U.S.C. s. 112, para. 6. *See* Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1584 (Fed.Cir.1996) (stating that "the use of the term 'means' has come to be so closely associated with 'means-plus-function' claiming that it is fair to say that the use of the term 'means' (particularly as used in the phrase 'means for') generally invokes section 112(6)"); *see also* Cole v. Kimberly-Clark Corp., 102 F.3d 524, 531 (Fed.Cir.1996) (stating that "[t]o invoke this statute, the alleged means-plus-function claim element must not recite a definite structure which performs the described function. Patent drafters conventionally achieved this by using only the words 'means for' followed by a recitation of the function performed"). Section 112, para. 6 directs that a claim written in this format "shall be construed to cover the corresponding structure, material or acts described in the specification and equivalents thereof." 35 U.S.C. s. 112. Thus, the "means for" set forth in the claim corresponds to the structure, material, or acts in the specification and equivalents thereof.

The specifications of the '537 and '459 patents describe several means for reducing the exposure of the vegetable oil to oxygen. (*See* '537 patent, col. 4, lines 48-67 to col. 5, lines 1-10, col. 7, lines 28-67, col 8

lines 1-30); ('459 patent, col. 4, lines 50-67, col. 5, lines 1-12, col. 7, lines 37-67, col. 8, lines 1-45.) I construe means for reducing the exposure of the vegetable to oxygen to mean the materials, structure or acts described in the specifications of the '537 and '459 patents and equivalents thereof.

"Oleate Modified Vegetable Oil"

Plaintiff argues that I should construe the above to mean that the dielectric fluid is composed of one or more vegetable oils in which the amount of the oleic acid component in the vegetable oil has been increased. (Pl.'s Br. at 36.) Defendants do not appear to have a competing definition. Oleic acid is a mono-unsaturated fat, which means that its chemical structure includes one carbon-carbon double bond (C=C). The specification of the '250 patent does not define "oleate modified vegetable oil," but I believe that a person having ordinary skill in the art would understand the phrase to mean a vegetable oil in which the amount of oleic acid has been increased. The specification does state that "oils containing mono-unsaturates oxidize less rapidly than polyunsaturated oils and are therefore somewhat preferred for use in the present invention." ('250 patent, col. 4, lines 31-34.) Thus, based on the teachings of the specification, particularly the concerns about oxidation, interpreting the claim limitation as an increase in oleic acid content is consistent with the intrinsic record.

IV. DEFENDANTS' WRITTEN DESCRIPTION ARGUMENT

Defendants assert that "all claims of patents-in-suit (asserted and unasserted) are indefinite as a matter of law and should not be construed." (Defs.' Supp. to Defs.' Submission Regarding Claims in Dispute at 1.) I disagree. Under 35 U.S.C. s. 112, para. 2, known as the definiteness requirement, the patent specification must "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." Although plaintiff's claim drafting, at times, was less than artful, I conclude that it complied with the definiteness requirement. The question of definiteness goes hand in hand with claim construction because in ruling on whether the patentee complied with s. 112 para. 2, the court, as in claim construction, "must determine whether those skilled in the art would understand what is claimed when the claim is read in light of the specification." Bancorp Servs., L.L.C. v. Hartford Life Ins. Co., 359 F.3d 1367, 1371 (Fed.Cir.2004); *see also* Honeywell Int'l, Inc. v. Int'l Trade Comm'n, 341 F.3d 1332, 1338-40 (Fed.Cir.2003). In *Bancorp,* the Federal Circuit provided guidance on the definiteness standard:

We have held that a claim is not indefinite merely because it poses a difficult issue of claim construction; if the claim is subject to construction, i.e., it is not insolubly ambiguous, it is not invalid for indefiniteness. Honeywell Int'l, Inc. v. ITC, 341 F.3d 1332, 1338-39 (Fed.Cir.2003). That is, if the meaning of the claim is discernible, "even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds." Exxon Research & Eng'g Co. v. United States, 265 F.3d 1371, 1375 (Fed.Cir.2001). By finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory presumption of patent validity, *see* 35 U.S.C. s. 282, and "we protect the inventive contribution of patentees, even when the drafting of their patents has been less than ideal." Exxon, 265 F.3d at 1375. Thus, "close questions of indefiniteness in litigation involving issued patents are properly resolved in favor of the patentee." Id. at 1380.

Bancorp, 359 F.3d at 1372. *Bancorp's* discussion of s. 112, para. 2 makes clear that the "insolubly ambiguous" standard is very high indeed, and that defendants have not met it. In the present case, the claims at issue are not "insolubly ambiguous." As the above discussion reveals, the intrinsic record contains enough

to place the claimed invention in its proper technologic context and to enable me to construe the claims. *See* Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings, 370 F.3d 1354, 1360 (Fed.Cir.2004) (emphasizing the importance of context in interpreting claims).

V. CONCLUSION

For the reasons discussed above, I adopt the following constructions of the disputed terms: (1) the term food grade dielectric fluid includes non-toxic aromatics but excludes halogenated hydrocarbons and alkylmethacrylates and means a substance that presents no environmental or health safety hazard; (2) the term essentially food grade dielectric fluid means that the dielectric fluid cannot have components that render the fluid as a whole harmful or unsafe to the environment; (3) the term essentially a natural food product means a material of plant or animal origin that has undergone a minimal amount of processing or treatment with preservatives; (4) the term method of using excludes manufacturing, offering for sale, selling, or importing, subject to the limitations discussed above; (5) the term having at least one degree of unsaturation means that the average degree of unsaturation of the fatty acid content of the vegetable oil is at least one; (6) the term further comprising an oxygen scavenging material in contact with the dielectric fluid means a chemically active substance that consumes or deactivates oxygen in the dielectric fluid that is not a part of the dielectric fluid, but is in contact with the dielectric fluid; (7) the term consisting essentially of does not exclude synthetic antioxidants; (8) the term free of chlorinated compounds means that there are no chlorinated compounds in the vegetable oil or oils in the dielectric fluid; (9) the term substantially free of chlorinated compounds in claim 1 of the '986 patent means that the vegetable oil or oils contain an amount of chlorinated compounds that does not exceed twenty percent by weight of the chlorinated fluid while the term substantially free of chlorinated compounds in claim 1 of the '250 patent means that the dielectric fluid contains an amount of chlorinated compounds that does not exceed twenty percent by weight of the chlorinated fluid; (10) the term wherein said dielectric fluid further comprises an antioxidant compound means an antioxidant that presents no environmental or health safety hazard and antioxidant is a substance that can possess non-toxic aromatics, but does not possess halogenated hydrocarbons and alkylmethacrylates; (11) the term means for reducing exposure of the vegetable oil to oxygen means the materials, structure or acts described in the specifications of the '537 and '459 patents and equivalents thereof; and (12) the term oleate modified vegetable oil means a vegetable oil in which the amount of oleic acid has been increased.

SO ORDERED.

FN1. Plaintiff argues that it does not attempt to recapture subject matter (i.e., non-toxic) that the Examiner rejected because its proposed definition of food grade is distinguishable from the non-toxic term that the Examiner rejected. (Pl.'s Resp. to Defs.' Sur-Reply at 7.) Plaintiff asserts that the specification of the '986 and '250 patents include non-toxic and non-biologically hazardous and that its proposed construction reflects the invention's purpose. But plaintiff unsuccessfully asserted this point before the PTO. To equate food grade with non-toxic would ignore the Examiner's finding under s. 112 and the fact that during prosecution plaintiff deleted the non-toxic claim language and inserted food grade. Plaintiff did so because although non-toxic and non-biologically hazardous appear in the intrinsic record of the '986 and '250 patents, the Examiner nonetheless rejected non-toxic because its meaning would not have been obvious to a person of ordinary skill in the art. (Pl.'s Ex. 3 at C000319, C000307.) Moreover, plaintiff stated in its "Amendment After Final Rejection" that it and the Examiner failed to reach an agreement on the term non-toxic. (*Id*. at C000337.)

FN2. This interpretation does not revive the proposed non-toxic construction, which the Examiner rejected based on s. 112. I am not defining food grade as non-toxic. Rather, I infer from the Examiner's allowance of food grade that the Examiner believed that a person having ordinary skill in the art would understand that term from the intrinsic record or technologic context. (The Examiner did not reject food grade based on s. 112.) I conclude that both the specifications and plaintiff's representations to the PTO support this interpretation.

FN3. The specifications of the '537 and '459 patents state that "it is preferred to use oils having fatty acids that include at least one degree of unsaturation (at least one C=C double bond)." ('537 patent, col. 4, lines 37-40); ('459 patent, col. 4, lines 39-42). This preference implies that the fatty acids of the claimed invention have zero degrees of unsaturation.

E.D.Wis.,2005.
Cooper Industries Inc. v. Asea Brown Boveri Inc.