

United States District Court,  
E.D. Tennessee.

**NISUS CORPORATION,**  
Plaintiff.

v.

**PERMA-CHINK SYSTEMS, INC,**  
Defendant.

No. 3:03-CV-120

**Jan. 25, 2005.**

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### ***REPORT AND RECOMMENDATION***

**C. CLIFFORD SHIRLEY, JR., United States Magistrate Judge.**

This matter is before the undersigned pursuant to 28 U.S.C. s. 636(b), the Rules of this Court, and by the Order [Doc. 211 ] of the Honorable Thomas A. Varlan, United States District Judge, for a report and recommendation on the construction of the claims at issue in this case pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). The undersigned conducted a *Markman* hearing on October 27 and 28, 2004 [Docs. 219, 220].

In this lawsuit, Plaintiff Nisus Corporation ("Plaintiff" or "Nisus") alleges that Defendant Perma-Chink Systems, Inc. ("Defendant" or "Perma-Chink") infringed on its rights under U.S. Patent No. 6,426,095 ("the '095 patent"). Specifically, Nisus contends that (1) Perma-Chink's Shell-Guard product infringes Claims 1, 5-7, 11-13, 17-19, and 22-39; (2) Perma-Chink's Guardian product infringes Claims 1, 11, 23, 25, 34, and 37; and (3) Perma-Chink's Shell-Guard Ready-ToUse ("RTU") product infringes Claims 22-28, 32-35, 37, and 38.

## **I. APPLICABLE LAW**

### **A. Intrinsic Evidence**

The first step in an infringement analysis is the proper construction of the asserted claims. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1581-82 (Fed.Cir.1996). Claim construction is a question of law for the Court. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed.Cir.1995) (en banc), *aff'd*, 517 U.S.

The Court begins its claim construction analysis with the intrinsic evidence set forth in the record:

It is well-settled that, in interpreting the asserted claim, the court should look first to the intrinsic evidence of record, *i.e.*, the patent itself, including the claims, the specification and, if in evidence, the prosecution history.... Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language.

Vitronics, 90 F.3d at 1582. In examining the intrinsic evidence, the Court must "look first to the claim language itself to define the scope of the patented invention." *Bell Atlantic Network Services, Inc. v. Covad Communications Group, Inc.*, 262 F.3d 1258, 1267 (Fed.Cir.2001). "The terms used in the claims bear a 'heavy presumption' that they mean what they say and have the ordinary meaning that would be attributed to those words by persons skilled in the relevant art." *Texas Digital Systems, Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202 (Fed.Cir.2002). Unless compelled otherwise, the Court must "give full effect to the ordinary and accustomed meaning of claim terms." *Johnson Worldwide Associates, Inc. v. Zebco Corp.*, 175 F.3d 985, 989 (Fed.Cir.1999). In so doing, the Court should construe the claims according to the precepts of English grammar. *In re Hyatt*, 708 F.2d 712, 714 (Fed.Cir.1983).

In construing the ordinary and customary meaning of claim terms, the Court may consult relevant dictionaries, encyclopedias, and treatises. *Texas Digital*, 308 F.3d at 1202-03 ("Dictionaries, encyclopedias and treatises, publicly available at the time the patent is issued, are objective resources that serve as reliable sources of information on the established meanings that would have been attributed to the terms of the claims by those with skill in the art."). Because multiple dictionary definitions are often available, the intrinsic record should be consulted to determine which of the possible definitions is most consistent with the claim language. *Id.* at 1203. "The 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." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed.Cir.1998). If the specification uses the term in a manner that is clearly inconsistent with the dictionary definition, the latter must be rejected. *Id.* ("a common meaning, such as one expressed in a relevant dictionary, that flies in the face of the patent disclosure is undeserving of fealty"). Thus, the presumption in favor of a dictionary definition may be rebutted where the patentee has acted as his own lexicographer and has explicitly defined the term differently than its ordinary meaning. *Texas Digital*, 308 F.3d at 1204. The presumption also may be rebutted "if the inventor has disavowed or disclaimed scope of coverage, by using words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope." *Id.*

In examining the written description, however, the Court must avoid importing limitations from the specifications into the claims. "[I]f the meaning of the words themselves would not have been understood to persons of skill in the art to be limited only to the examples or embodiments described in the specification, reading the words in such a confined way would mandate the wrong result and would violate our proscription of not reading limitations from the specification into the claims." *Texas Digital*, 308 F.3d at 1205. The Federal Circuit also has recognized, however, that the written description may define a term "by implication" where "a patentee uses a claim term throughout the entire patent specification, in a manner consistent with only a single meaning...." *Bell Atlantic*, 262 F.3d at 1271.

Finally, the Court should "examine the prosecution history to determine whether the patentee has relinquished a potential claim construction in an amendment to the claim or in an argument to overcome or

distinguish a reference." Bell Atlantic, 262 F.3d at 1268. If during the prosecution of the patent the patentee has disclaimed a particular interpretation, provided an explicit definition or otherwise taken a position to distinguish prior art, such statements are relevant to determining the meaning of the terms in the patent claims. Southwall Technologies, Inc. v. Cardinal IG Co., 54 F.3d 1570, 1576 (Fed.Cir.1995).

## **B. Extrinsic Evidence**

Extrinsic evidence is evidence which is "external to the patent and file history," such as expert testimony, inventor testimony, and prior art. Vitronics, 90 F.3d at 1584. If the intrinsic evidence is unambiguous, the Court may not rely upon extrinsic evidence for the purposes of claim construction. Bell & Howell Document Management Products Co. v. Altek Systems, 132 F.3d 701, 706 (Fed.Cir.1997). As the Federal Circuit explained in *Vitronics*:

The claims, specification, and file history, rather than extrinsic evidence, constitute the public record of the patentee's claim, a record on which the public is entitled to rely. In other words, competitors are entitled to review the public record, apply the established rules of claim construction, ascertain the scope of the patentee's claim invention and, thus, design around the claimed invention. Allowing the public record to be altered or changed by extrinsic evidence ..., such as expert testimony, would make this right meaningless. The same holds true whether it is the patentee or the alleged infringer who seeks to alter the scope of the claims.

Vitronics, 90 F.3d at 1583 (citations omitted).

While both parties submitted expert testimony and other extrinsic evidence in support of their proposed interpretation of the disputed claim terms, both parties also conceded that the terms at issue are not ambiguous, and therefore, such extrinsic evidence need not be considered by the Court.

## **II. ANALYSIS**

The patent-in-suit relates to compositions which provide protection from infestation for living trees, cut timber or lumber, and other wood based products. In general, the independent claims (Claims 1, 11, 23, 32, 34, and 37) claim formulations having at least three chemical components: two glycols and a boron-containing compound. Some claims, such as Claim 32, also include water.

There are six claim terms in dispute: (1) "mixed glycol"; (2) "short chain polyalkylene glycol"; (3) "short chain alkylene glycol"; (4) "composition"; (5) "amount effective to prevent or eradicate infestation"; and (6) "agitating." At the *Markman* hearing, the parties placed on a board their proposed construction for each disputed claim term. A summary of the parties' proposed constructions is attached hereto as Appendix 1. The Court will address each of these disputed terms in turn.

### **A. "Mixed Glycol"**

The first issue concerns the meaning of the term "mixed glycol," a term which is used in Claims 11-13, 17-19, 23-27, 32-33, and 37-38. Specifically, Claims 11, 23, 32, and 37, which are all independent claims, contain the following phrase: "mixed glycol including polyethylene glycol having an average molecular weight of between about 200 and about 400 and propylene glycol." Claim 11 is representative:

11. A composition for treating tree derived products which results from heating a mixture comprising:

a **mixed glycol** including polyethylene glycol having an average molecular weight of between about 200 and about 400 and propylene glycol; and boron provided as a glycol soluble boron containing compound in an amount effective to prevent or eradicate infestation.

[Col. 31, line 63-Col. 32, line 3] (emphasis added). Nisus contends that the term "mixed glycol" should be defined as "a mixture including more than one kind of glycol in which there is at least one short chain polyalkylene glycol and at least one short chain alkylene glycol." Perma-Chink contends, on the other hand, that the term "mixed glycol" should be defined as "a combination of glycols that includes polyethylene glycol having an average molecular weight of between about 200 and 400 and propylene glycol."

As can be seen from the proposed constructions, the parties agree that "mixed glycol" should be construed to include at least two glycols. The parties disagree, however, as to whether the term is limited to only glycols or encompasses non-glycol substances as well, such as water. Nisus asserts that the term "mixed glycol" should be construed broadly to include other non-glycol substances; Perma-Chink argues that the term "mixed glycol" is properly limited to a combination or mixture of glycols only.

Examining the plain language of the claims themselves, using the basic rules of English grammar, it appears to the Court that the term "mixed" is an adjective modifying the term "glycols," which indicates that what is being mixed are glycols. Construing "mixed glycol" as a mixture of only glycols is consistent with the claim language. For example, if a non-glycol substance, such as water, could be included in the mixed glycol, then Claim 17, which provides for "the composition of claim 11 further comprising water," would be a redundant claim.

"Mixed glycol" is explicitly defined in the specification as follows:

The term "mixed glycol(s)" is intended to describe a mixture of at least one short chain polyalkylene glycol and at least one short chain alkylene glycol, preferably in a ratio of from about 1 part of said at least one polyalkylene glycol to about one part of said at least one alkylene glycol through about one part of said at least one polyalkylene glycol to about 20 parts of said at least one alkylene glycol.

[Col. 4, lines 7-13]. The explicit definition, however, does not resolve the issue of whether the mixture may include other, non-glycol substances. Both parties argue that the definition explicitly provided in the specification is consistent with their respective constructions of the term "mixed glycol." The Court must examine the specification further to determine how the term "mixed glycol" is used.

Nisus argues that the specification uses the term "mixed glycol" consistently with its proposed construction, and it cites the following language from the specification in support of this argument:

In a more preferred embodiment, the boron and **mixed glycols are present** in an amount of between 1 part boron to about 6.5 parts mixed glycol to about 1 part boron to about 10 parts mixed glycol **and the water is present** in an amount of between about 8.8 parts per part boron to about 34.2 parts per part boron.

[Col. 10, lines 14-19] (emphasis added). Nisus contends that this language is consistent with its proffered construction in that two glycols in a mixture with water are referred to as a "mixed glycol."

The Court does not agree that this citation supports a construction that "mixed glycol" can include water or

some other non-glycol substance. The cited passage must be read in the context of the preceding paragraphs, specifically Col. 9, lines 58-67 and Col. 10, lines 1-13. This part of the specification discusses a composition of mixed glycol and boron *which is subsequently diluted with water*. Further, the reference itself notes the ratio of "mixed glycols" to boron *and* water. Clearly, this part of the specification does not contemplate the term "mixed glycol" as containing water.

A review of the specification also reveals that there is no reference to any non-glycol substance being included in the "mixed glycol." In fact, "mixed glycol" is consistently used to refer to a mixture of only glycols, as is demonstrated by the following passage:

One method of manufacturing the compositions in accordance with the present invention includes the steps of providing an amount of at least one short chain polyalkylene glycol and at least one short chain alkylene glycol and charging these glycols to a sealable vessel; agitating the **mixed glycols** and, preferably, raising the temperature thereof.

[Col. 14, lines 41-47] (emphasis added). This part of the specification references mixing a polyalkylene glycol and an alkylene glycol and subsequently refers to this mixture as a "mixed glycol." The Court simply finds no support in the specification for Nisus' argument that the term "mixed glycol" really means a mixture of glycols *and* other non-glycol substances. FN1

FN1. The term "mixed glycol" is further limited in the claims by the requirement that the mixed glycol must include at least one polyethylene glycol having an average molecular weight of between about 200 and about 400 and at least one propylene glycol. Thus, a plain reading of this claim language is that the mixed glycol may include any number of glycols, so long as at least one is a polyethylene glycol having an average molecular weight of between about 200 and about 400 and at least one is a propylene glycol.

Relying solely on the intrinsic evidence of the '095 patent, the Court **RECOMMENDS** that the term "mixed glycol," as used in the '095 patent, be construed as "a combination of only glycols which includes at least one short chain polyalkylene glycol and at least one short chain alkylene glycol."

## **B. "Short Chain Polyalkylene Glycol" and "Short Chain Alkylene Glycol"**

The next issue involves the construction of the terms "short chain polyalkylene glycol" and "short chain alkylene glycol." Claim 1 is representative:

A composition of treating tree derived products which results from heating a mixture comprising:

at least one **short chain polyalkylene glycol** having an average molecular weight of between about 200 and about 400;

at least one **short chain alkylene glycol**; and

a glycol soluble boron containing compound in an amount effective to prevent or eradicate infestation and wherein **said** at least one **short polyalkylene glycol is polyethylene glycol**; and **said** at least one **short chain alkylene glycol is propylene glycol....**

[Col. 31, lines 18-28] (emphasis added).

Both of these terms are specifically defined in the specification as follows:

The compositions of the present invention include at least one short chain polyalkylene glycol having an average molecular weight of between 200 and 400. By short chain, it is understood that polyalkylene glycols having repeating units of between 2 and 4 carbon atoms in length are contemplated.

\* \* \*

The term "at least one short chain alkylene glycol" is intended to mean an alkylene glycol having a chain length of about 2 to about 4 carbon atoms.

[Col. 10, line 66-Col. 11, line 4; Col. 11, lines 35-37]. The terms are further limited within the claims themselves by the use of the phrase "wherein said at least one short chain polyalkylene glycol is polyethylene glycol" and the phrase "said at least one short chain alkylene glycol is propylene glycol." [Col. 31, lines 25-28].

Based upon the plain language of the claims themselves and the explicit definitions set forth in the specification, the Court **RECOMMENDS** that the *term* "short chain polyalkylene glycol" as used in the '095 patent be construed as "a polyalkylene glycol having repeating units of between 2 and 4 carbon atoms in length and having an average molecular weight of between about 200 and 400" and that the *term* "short chain alkylene glycol" be construed as "an alkylene glycol having a chain length of about 2 to about 4 carbon atoms." FN2

FN2. While the undersigned recommends the adoption of the broader definition of these *terms*, the Court notes that by operation of the phrases "wherein said at least one short chain polyalkylene glycol is polyethylene glycol" and "said at least one short chain alkylene glycol is propylene glycol," the *term* "short chain polyalkylene glycol" appears to be expressly limited in the *claims* themselves to polyethylene glycol with an average molecular weight of between about 200 and 400, and the *term* "short chain alkylene glycol" appears to be expressly limited to propylene glycol. Thus, while these *terms* have a broader, more general definition within the specification, a plain reading of the specific *claims* appears to state a limitation which indicates that the only short chain polyalkylene glycol that is contemplated by the patent is polyethylene glycol with an average molecular weight of between about 200 and 400, and that the only short chain alkylene glycol contemplated by the patent is propylene glycol. Both parties appear to agree that the *claims* are so limited. However, such "claim limitation" does not technically change the actual *meaning* of the *terms* "short chain polyalkylene glycol" and "short chain alkylene glycol." This is similar to a *claim* that is limited to the use of a balloon that is red, where the Court is called upon to construe only the *term* "balloon." While the *claim* is limited to only red balloons, the *term* "balloon" itself is not limited to only balloons that are red.

### C. "Composition"

The next issue involves the construction of the term "composition." The term is used throughout the claims of the '095 patent. Claim 1 is representative:

A **composition** for treating tree derived products which results from heating a mixture comprising:

at least one short chain polyalkylene glycol having an average molecular weight of between about 200 and about 400;

at least one short chain polyalkylene glycol; and

a glycol soluble boron containing compound in an amount effective to prevent or eradicate infestation and wherein said at least one short polyalkylene glycol is polyethylene glycol; and said at least one short chain alkylene glycol is propylene glycol and said glycol soluble boron containing compound is selected from the group consisting of borax, boric acid, potassium, ammonium and sodium salts of boric acid, boric oxide and disodium octaborate tetrahydrate which is present in an amount between about 20% and about 50% by weight.

[Col. 31, lines 18-34] (emphasis added).

Nisus contends that the proper construction of "composition" is the definition found in Webster's Ninth Collegiate Dictionary: "a product of mixing or combining various elements or ingredients." Perma-Chink, on the other hand, contends that "composition" is implicitly defined in the patent specification as "a stable solution." It argues that a general-usage dictionary definition cannot overcome the art-specific evidence of the meaning of the claim term as set forth in the specification. Nisus counters that Perma-Chink's proposed definition is too narrow because there is no express definition of the term in the specification, nor is there an express disclaimer of scope.

The Federal Circuit addressed similar claim construction arguments in *Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295 (Fed.Cir.2004). At issue in that case was the term "group key," as used in a patent for a system of selectively controlling access to digital data broadcasts. Irdeto proffered a general-usage dictionary definition of the term "group" to demonstrate that nothing in the ordinary meaning of "group" requires limiting that term in the patent to fewer than all subscribers to the system. Absent a "clear disclaimer" or "manifest exclusion" in the specification, Irdeto argued, the presumption of this plain meaning must apply. *Id.* at 1300. The defendant Echostar, on the other hand, argued that there was no such presumption because the disputed term lacked an accepted meaning in the art. The Federal Circuit concluded that the use of the term in the specification controlled the scope of its meaning:

As we held in *J.T. Eaton [ & Co. v. Atlantic Paste & Glue Co.*, 106 F.3d 1563 (Fed.Cir.1997) ], absent such an accepted meaning [in the art], we construe a claim term only as broadly provided for by the patent itself. 106 F.3d at 1570. The duty thus falls on the patent applicant to provide a precise definition for the disputed term. *Id.* Moreover, where evidence such as expert testimony or technical dictionaries demonstrates that artisans would attach a special meaning to a claim term or would attach no meaning at all to the claim term independent of the specification "general-usage dictionaries are rendered irrelevant with respect to that term ..." *Vanderlande Indus. Nederland BV v. Int'l Trade Comm'n*, 366 F.3d 1311, 1321 (Fed.Cir.2004). "[A] general-usage dictionary cannot overcome credible art-specific evidence of the meaning or lack of meaning of a claim term." *Id.* (citation omitted).

Here, applicant informed the examiner and all competitors that the "key" modifiers-"service," "group," and "box"-have no accepted meaning in the art and "are very adequately described in the specification." The application's use of those terms in the specification thus controls their scope.

*Id.*

In the instant case, there is no evidence that the term "composition" has any special meaning in the art. The Court therefore turns to the specification to determine the scope of this particular term. Perma-Chink points to several instances in the specification where, it contends, "composition" and "solution" are used interchangeably, thereby limiting the definition of "composition" by implication to "solution." Upon reviewing the specification, the Court cannot agree with Perma-Chink's contention that "composition" is used consistently in the specification to refer to a stable solution. In fact, it appears that a distinction is often made in the specification between a "composition" and a "solution." For example, the specification provides, in pertinent part, as follows:

In accordance with another aspect of the present invention, there is provided a method of preventing or eradicating an infestation in a tree derived product including the steps of providing an environmentally safe composition ...; **diluting the composition with water ...**; mixing the **resulting solution** to provide uniformity and eliminate cloudiness; and applying the mixture to a surface of a tree or tree derived product.

[Col. 9, lines 19-33] (emphasis added). Nisus concedes that the preferred embodiment of the '095 patent is a homogenous solution. It would be improper, however, to limit the term "composition" to the preferred embodiment described in the specification. *See Teleflex, Inc. v. Ficosa North America Corp.*, 299 F.3d 1313, 1328 (Fed.Cir.2002). Upon reviewing the specification and prosecution history, the Court cannot say that the composition was consistently used such that a definition of "stable solution" is clearly implied, nor does the specification or prosecution history demonstrate a clear disavowal of claim scope.

The Court finds that the general-usage dictionary definition of "composition" proffered by Nisus is consistent with the use of the term in the specification, and furthermore, there is no specific evidence in the specification or prosecution history to overcome that meaning. Accordingly, the Court **RECOMMENDS** that the term "composition" be construed as "a product of mixing of combining various elements or ingredients."

#### **D. "Amount Effective to Prevent or Eradicate Infestation"**

The next issue involves the construction of the term "amount effective to prevent or eradicate infestation." This term is used throughout the claims in the '095 patent. Nisus asks the Court to adopt the following definition: "a quantity of the boron containing compound that destroys or prevents an infestation of tree derived products by insects and/or fungi." Perma-Chink, on the other hand, argues that this term is fatally indefinite, as a person skilled in the art could not ascertain without undue experimentation what "amount" is "effective" to prevent or eradicate various infestations. Alternatively, Perma-Chink contends that the term should be limited to the amount the specification discusses as "generally effective," or 40.6% by weight disodium octaborate tetrahydrate, undiluted with water.

Nisus argues that it would be inappropriate for the Court to convert the *Markman* hearing into a proceeding to determine whether the claim limitation is invalid as indefinite. Furthermore, Nisus argues, Perma-Chink is barred by the doctrine of assignor estoppel from raising this invalidity argument. Even if Perma-Chink is not so barred, Nisus contends, the evidence demonstrates that the claims are not fatally indefinite.

The Federal Circuit has determined that a similar phrase, "effective amount," has "a customary usage."



Abbott Labs. v. Baxter Pharmaceutical Products, Inc., 334 F.3d 1274, 1277 (Fed.Cir .2003); Minnesota Mining & Mfg. Co. v. Chemque, Inc., 303 F.3d 1294, 1304 (Fed.Cir.2002). "[C]laim terms take on their ordinary and accustomed meanings unless the patentee demonstrated an intent to deviate from the ordinary and accustomed meaning of a claim term by defining the term or by characterizing the invention in the intrinsic record using words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope." Teleflex, 299 F.3d at 1324. The specification of the '095 patent teaches that the effective amount of boron containing compound required will vary, depending on various factors, including the form of the boron used for the boron containing compound [Col. 12, lines 24-31 ] and the type of insect or fungi targeted [Col. 12, line 32-Col. 13, line 24]. In recognizing that the effective amount of boron containing compound required depends on numerous factors, the specification does not deviate from the customary meaning of "amount effective," and therefore, the term should be construed in light of its ordinary and customary meaning. *See* Abbott Labs., 334 F.3d at 1278. Accordingly, pursuant to the customary usage recognized by the Federal Circuit, the Court hereby **RECOMMENDS** that the term "amount effective to prevent or eradicate infestation" be construed to mean "a quantity of the boron containing compound that destroys or prevents an infestation of tree derived products by insects and/or fungi."

The Court further finds that Perma-Chink's arguments that the use of the term "amount effective" renders the Plaintiff's claims fatally indefinite are validity arguments which are beyond the scope of this opinion and are issues best reserved for the District Court.

#### **E. "Agitating"**

The term "agitating" appears in independent Claims 34 and 37, which describe "a composition for treating tree derived products which results from agitating a mixture...." [Col. 33, lines 41-42; Col. 34, lines 24-25]. The parties agree that "agitating" is not explicitly defined in the specification or prosecution history. Nisus argues that the term should be construed to mean "to give motion to, such as stir." Perma-Chink, on the other hand, argues that "agitating" means "a common operation to effect distribution, intermingling, and homogeneity of matter that can include moving molecules to the point where measurable heat is generated." In support of its construction of the term "agitating," Perma-Chink relies upon the following definition of "mixing" found in the *McGraw Hill Encyclopedia of Science and Technology* (1987):

Mixing. A common operation to effect distribution, intermingling, and homogeneity of matter. Actually the operation is called **agitation**, with the term "mixing" being applicable when the goal is blending, that is, homogeneity. Other processes, such as reaction, mass transfer (includes solubility and crystallization), heat transfer, and dispersion are promoted by agitation. The type, extent, and intensity of agitation determine both the rates and adequacy of a particular process result. The agitation is accomplished by a variety of equipment.

(Emphasis added). Further, Perma-Chink argues that the specification supports its construction. Specifically, Perma-Chink cites Column 14, lines 41-52, which provides, in pertinent part, for "agitating the mixed glycols and, preferably, raising the temperature thereof." That passage goes on to state as follows:

The glycol soluble boron containing compound is then added to the vessel under sufficient agitation to break up all lumps such that a homogeneous mixture is formed. The **temperature** of the mixture is **then raised** to between approximately 160 and 180 F. **with agitation**.

[Col. 14, lines 47-51] (emphasis added).

The technical definition of "mixing" relied upon by Perma-Chink does not support Perma-Chink's proffered construction. This definition indicates that agitation may *promote* such processes as heat transfer and dispersion, but it does not state that the act of agitation itself necessarily *creates* heat. Furthermore, the examples cited by Perma-Chink from the specification clearly indicate a two-step process whereby the mixture is agitated and then heat is applied to raise the temperature of the mixture. Perma-Chink's proposed interpretation of this language—that the agitation somehow is the cause of the rise in temperature—is simply not supported by this language. Indeed, Nisus' broad definition, derived from Webster's Ninth Collegiate Dictionary, is more consistent with the specification. For example, in Column 16, line 49, the specification states that the mixture "is then stirred or agitated," which indicates that the terms "stirred" and "agitated" are interchangeable. In Column 25, lines 61-63, there is reference to heating the mixture, removing the heat, and continuing to agitate the mixture, while allowing the mixture to cool. These examples from the specification indicate that a broader construction of "agitating" is more appropriate. Thus, it appears from the intrinsic evidence in the record that while agitation may result in heat generation, the term "agitating" itself does not indicate that the generation of heat is a necessary component of agitation. Based upon the intrinsic evidence set forth in the '095 patent, the Court **RECOMMENDS** that the term "agitating" be construed as "giving motion to, such as stirring."

### III. CONCLUSION

For the foregoing reasons, it is hereby **RECOMMENDED** that the disputed claims be construed as follows: (1) the term "mixed glycol" means "a combination of only glycols which includes at least one short chain polyalkylene glycol and at least one short chain alkylene glycol"; (2) the term "short chain polyalkylene glycol" means "a polyalkylene glycol having repeating units of between 2 and 4 carbon atoms in length and having an average molecular weight of between about 200 and 400"; (3) the term "short chain alkylene glycol" means "an alkylene glycol having a chain length of about 2 to about 4 carbon atoms"; (4) the term "composition" means "a product of mixing of combining various elements or ingredients"; (5) the term "amount effective to prevent or eradicate infestation" means "a quantity of boron containing compound that destroys or prevents an infestation of tree derived products by insects and/or fungi"; and (6) the term "agitating" means "giving motion to, such as stirring." FN3

FN3. Any objections to this Report and Recommendation must be served and filed within ten (10) days after service of a copy of this recommended disposition on the objecting party. Such objections must conform to the requirements of Rule 72(b), Federal Rules of Civil Procedure. Failure to file objections within the time specified waives the right to appeal the District Court's order. *Thomas v. Arn*, 474 U.S. 140, 106 S.Ct. 466, 88 L.Ed.2d 435 (1985). The district court need not provide *de novo* review where objections to this report and recommendation are frivolous, conclusive or general. *Mira v. Marshall*, 806 F.2d 636 (6th Cir.1986). Only specific objections are reserved for appellate review. *Smith v. Detroit Federation of Teachers*, 829 F.2d 1370 (6th Cir.1987).

### Appendix 1

Disputed Claim Term	Nisus' Proposed Construction	Perma-Chink's Proposed Construction
Mixed Glycol	a mixture including more than one kind of glycol in which there is at least one short chain	a combination of glycols that includes polyethylene glycol having an average

	polyalkylene glycol and at least one short chain alkylene glycol	molecular weight of between about 200 and 400 and propylene glycol
Short Chain Polyalkylene	an alkylene glycol having a chain length of about 2 to about 4 carbon atoms	propylene glycol
Short Chain Polyalkylene Glycol	polyalkylene glycols having repeating units of between 2 and 4 carbon atoms in length and having an average molecular weight of between about 200 and 400	polyethylene glycol with an average molecular weight of between about 200 to less than 400
Composition	a product of mixing or combining various elements or ingredients	a stable solution

Amount Effective to Prevent or Eradicate Infestation      a quantity of boron containing compound that destroys or prevents an infestation of tree derived products by insects and/or fungi      none [FN4]

FN4. Perma-Chink contends that this term as used in the '095 patent is not capable of being defined.

Agitating      to give motion to, such as stir      a common operation to effect distribution, intermingling, and homogeneity of matter that can include moving molecules to the point where measurable heat is generated

E.D.Tenn.,2005.  
Nisus Corp. v. Perma-Chink Systems, Inc.

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