

Commissioner=s Decision/Décision du Commissaire #1357

TOPIC/SUJET: F01, G00

Application No./Demande n°: 2,266,261

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,266,261 having been rejected under subsection 30(3) of the *Patent Rules*, has consequently been reviewed in accordance with subsection 30(6) of the

*Patent Rules* by the Patent Appeal Board and the Commissioner of Patents. The findings of the Board and the decision of the Commissioner are as follows:

Agent for the Applicant:

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## INTRODUCTION

[1] McGill University applied for patent application number 2,266,261 concerning the use of salt solutions as a herbicide. It is entitled "Foliar Saline Spray Solution for Selective Control of Noxious Weeds." In particular, the solutions are said to selectively kill noxious weeds, especially ragweed, while only causing temporary damage to other plants, especially grass.

[2] This is a review of the application under subsection 30(6) of the *Patent Rules* following its rejection by a patent examiner.

[3] The inventors listed in the present application are Mr. André Grégoire, Mr. Gérard Lupien, Dr. Alan Watson, and Dr. Antonio Ditommaso. Two of the inventors, namely Mr. Grégoire and Mr. Lupien, filed a previous patent application in Canada on 7 March 1996 which also disclosed the use of sodium chloride (NaCl) solutions as herbicides. Subsequent to being opened to public inspection on 8 September 1997, the application was abandoned. After conducting further testing of salt solutions on ragweed, the Applicant filed the present application on 22 March 1999, claiming priority from its U.S. patent application filed on 23 March 1998.

[4] The Examiner rejected the present application alleging that the subject matter of certain claims was publically disclosed by the abandoned Canadian application (Grégoire *et al.*), thereby barring the grant of claims to the disclosed subject matter. The Examiner did, however, find claims that additionally included an adjuvant to be novel.

[5] As the Applicant's response to the Final Action did not persuade the Examiner to withdraw the rejection, the Examiner prepared a Summary of Reasons detailing the reasons for maintaining the rejection and forwarded the application to the Patent Appeal Board for review. The sole reason for maintaining the rejection was that certain claims were anticipated by Grégoire *et al.*

[6] An initial review by the Board raised concerns about additional defects. At the Board's request, the Examiner conducted a further investigation and prepared a Supplemental Analysis detailing additional alleged defects and revisiting an issue that was previously dropped by the Examiner but required reconsideration on account of judicial developments during prosecution. More specifically, the Supplemental Analysis alleged that the claims that recite solutions containing any chlorinated salt (*i.e.* any salt containing a chlorine atom) as being useful for the control of noxious weeds are not soundly predicted. Additionally, claims that recite the inclusion of any adjuvant in those solutions are also not soundly predicted. The Examiner also provided analyses on the obviousness of the claims considered to lack novelty and alleged that the inclusion of an adjuvant was tantamount to a desired result. The Board advised the Applicant to disregard the desired result analysis and instead address the arguments under obviousness, in addition to the other obviousness defect identified by the Examiner in the Supplemental Analysis.

[7] In addition to maintaining that Grégoire *et al.* does not sufficiently teach the subject matter now claimed, the Applicant submits that the review must be restricted to the issues as detailed in the Summary of Reasons and any further investigation is impermissible.

[8] Accordingly, there are four issues to be addressed in this review:

- 1) Can the grounds raised in the Supplemental Analysis be considered by the Board?
- 2) Does Grégoire *et al.* anticipate certain claims?
- 3) Are the claims that recite any chlorinated salt soundly predicted?
- 4) Are the claims that recite any adjuvant soundly predicted?

[9] As will be seen below, it is unnecessary to consider either of the obviousness issues.

**CAN THE GROUNDS RAISED IN THE SUPPLEMENTAL ANALYSIS BE CONSIDERED BY THE BOARD?**

[10] As stated above, the Supplemental Analysis produced by the Examiner raised grounds that were not included in the Final Action.

[11] The Board forwarded the Supplemental Analysis to the Applicant on 5 June 2013 to provide notice of the new issues, inviting the Applicant to address all matters in writing and/or at a hearing.

[12] The Applicant contacted the Board one week before the hearing scheduled for 6 September 2013 with concerns regarding the appropriateness of identifying new defects during the review. The Board acknowledged these concerns and invited the Applicant to provide submissions on the procedural matter at the hearing, to be considered along with its other submissions.

[13] At the hearing, the Applicant made its submissions on the appropriateness of introducing new issues and asked that a preliminary decision be taken on the procedural matter so as to avoid making potentially unnecessary submissions on the new issues. After making its submissions on the issue of anticipation as raised in the Final Action, the hearing was adjourned. The Board subsequently contacted the Applicant to advise that the procedural matter would be addressed by the Commissioner along with his decision on the substantive issues. The Applicant accepted an invitation to a second hearing in order to address the new issues, conducted via video conference on 13 September 2013.

[14] To support its position that the Examiner may not identify new defects subsequent to the Final Action, the Applicant cited two recent Federal Court decisions (*Belzberg v Canada*, 2009 FC 657 and *Bartley v Canada*, 2011 FC 873), three previous decisions of the Commissioner, and the *Manual of Patent Office Practice* (MOPOP).

Belzberg and Bartley

[15] Having reviewed these cases, the Board finds that they do not require the Commissioner to ignore previously unrecognized potential defects or previously identified defects that ought to be reassessed in light of judicial developments. Moreover, the present case is distinguishable from both *Belzberg* and *Bartley*.

[16] *Belzberg* deals with further prosecution before an Examiner following a Commissioner=s Decision, where the Board did not recommend any new areas of investigation. With respect to a rejected application under review, the Court held that the Commissioner must do one of two things: either grant or refuse the application; see *Belzberg* at para. 44. The Court also held that the Final Action must be comprehensive and that, barring the identification of a new area of investigation by the Board, no further prosecution is permitted by the Examiner after the Commissioner=s review; see *Belzberg* at 44 and 46.

[17] The Applicant submits that, because *Belzberg* requires that all outstanding defects be disclosed in a Final Action, it is improper to now consider additional defects that were not in the Final Action.

[18] In *Bartley*, an Examiner issued a Final Action on the issue of allegedly impermissible amendments to the specification. The Final Action did not address other defects which the Examiner held in abeyance pending the resolution of a review by the Commissioner. The Applicant was not notified by the Examiner that certain defects were being held in abeyance and was only notified of this when the case was forwarded to the Board. The Commissioner overturned the rejection and directed the Examiner to conduct further prosecution to deal with the issues held in abeyance. The Court held that a Final Action must be comprehensive and that it was improper for defects to be excluded. Furthermore, the Applicant ought to have been given an opportunity to be heard on the procedural matter of ordering additional prosecution to deal with the issues held in abeyance.

[19] In contrast, in the present case new issues were identified during the review by the Board. And because, as held in *Belzberg*, the only options for the Commissioner upon a review are to allow or refuse an application, it is critical that the review be comprehensive with a view to ensuring compliance with the *Patent Act* and *Patent Rules* if the application is to be granted, as required under subsection 27(1) of the Act.

Previous Commissioner=s Decisions

[20] The Applicant also alerted the Board to three Commissioner=s Decisions in which defects were identified for the first time by an Examiner in the Final Action and the Commissioner declined to consider the new defects: *Re Application of Kinker et al* (now Patent No. 1,174,362) (1983), CD1012, 5 CPR (3d) 483; *Re Industrial Design Application No 1998-2348*, 14 CPR (4<sup>th</sup>) 63; and *Re Application No 158,764* (now Patent 1,047,383) (1978), CD 453, 53 CPR (2d) 277.

[21] The Board finds that these Commissioner=s Decisions do not prevent the consideration of the new issues in this case. These decisions do not reflect the developments in practice that have since occurred. Moreover, subsequent to both *Belzberg* and to the three decisions cited by the Applicant, in at least one instance an Examiner was directed to investigate new defects during the review of a rejected application, e.g., see *Re Application No.2,388,807* (2012), CD 1329.

### MOPOP

[22] At the first hearing, the Applicant submitted that, according to the Office=s guidance in MOPOP, the Examiner is prohibited from identifying defects beyond those identified in the Final Action.

[23] Indeed, the current version of MOPOP states that a Final Action is to be comprehensive, that the review process is restricted to the issues identified in the Final Action, and that the Examiner cannot identify further defects that may have been missed in the Final Action; see MOPOP, March 1998, section 21.02.

[24] While MOPOP is a helpful guide, as stated in its Foreword it reflects the Office=s interpretation of the law as of the date each chapter comes into effect. As Chapter 21 was published in 1998, it does not reflect *Belzberg*, *Bartley*, and subsequent Commissioner=s Decisions in which new issues were addressed by the Commissioner.

### Amendments to the *Patent Rules*

[25] In December 2013, the *Patent Rules* dealing with the review of rejected applications were significantly amended. Subsection 30(6.1) of the *Patent Rules* now explicitly provides authority for the Commissioner to identify defects other than those indicated in the Final Action notice, and provides that the Applicant be consequently invited to make submissions. As noted at paragraph [11], the Applicant was advised in the present review process of the further defects and was given an opportunity to make submissions. The present review is therefore compliant not only with the previous version of the *Patent Rules*, but also with the current *Patent Rules*.

### Conclusion

[26] The issues raised in the Supplemental Analysis will be considered in this review to achieve the finality of the review process required by *Belzberg* and in order to ensure compliance with subsection 27(1) of the Act.

[27] Before turning to the issues of anticipation and sound prediction, we must first discuss claim construction.



## CLAIM CONSTRUCTION

[28] Claims are to be purposively construed. Purposive construction entails interpreting the meaning of the terms and expressions used in the claims as well as differentiating the essential features (>the pith and marrow=) from the unessential@ (see *Whirlpool Corp v Camco Inc*, 2000 SCC 67 at para. 48). It is conducted through the eyes of the person of ordinary skill in the art (POSITA), based on a knowledgeable reading of the whole specification (which comprises both the description and the claims).

[29] With respect to the POSITA, it was characterized by the Examiner in the Supplemental Analysis as:

...someone with experience in the field of pesticides, possibly a pesticide formulation technologist or alternatively a grass maintenance specialist which is motivated to provide environmentally friendly weed control formulations for application onto grass.

[30] The Applicant provided no submissions on the characterization of the POSITA.

[31] Of the two alternatives stated by the Examiner, we prefer the first; a grass maintenance specialist would be unlikely to have the requisite background in chemistry that we believe the present disclosure demands. In the Board=s opinion, the Examiner=s characterization is reasonable; the POSITA is a Apesticide (including herbicides) formulation technologist.@

[32] There is no dispute between the Examiner and the Applicant that any of the elements are non-essential and we see no reason to conclude otherwise. It suffices for the purposes of these reasons to presume all elements to be essential. After having conducted our analysis with this presumption, we also note that finding any of the elements to be non-essential would not have changed our conclusions. The claims and the meaning of terms used therein will be addressed as needed in the analyses that follow.

## DOES GRÉGOIRE *ET AL.* ANTICIPATE CERTAIN CLAIMS?

[33] In the Final Action, the Examiner found that claims 20, 22, 24, 26, 28, and 30 were anticipated by Grégoire *et al.* The disagreement between the Examiner and Applicant regarding anticipation is rooted in the specific differences in salt concentrations used in the solutions and whether Grégoire *et al.* was based on speculation and was therefore not enabled.

### Applicable Law

[34] Subject matter claimed in a patent must be new. If information obtained directly from an applicant (which includes the inventor) is publically disclosed more than one year before the filing date of an application, it may be considered in assessing anticipation; see paragraph 28.2(1)(a) of

the Act.

[35] To anticipate, a prior disclosure must both disclose and enable the subject matter of a claim; *Apotex Inc v Sanofi-Synthelabo Canada Inc*, 2008 SCC 61.

[36] In order to meet the disclosure requirement for anticipation, there must be disclosure of subject matter which, if performed, would necessarily result in infringement of the claim(s). The person skilled in the art is taken as trying to understand what the author of the disclosure meant; trial and error experimentation is not permitted when considering the disclosure test. If the disclosure test is satisfied, it is necessary to then consider enablement.

[37] At the enablement stage, the question is whether the skilled person would be able to work the invention. Trial and error experiments are permitted at this stage, so long as they do not involve an inventive step or undue burden.

[38] Finally, the entire scope of a claim need not be anticipated; it suffices that a single embodiment be disclosed and enabled; see *Baker Petrolite Corp v Canwell Enviro-Industries Ltd*, 2002 FCA 158 at para. 42.

#### Claims in Dispute

[39] Claim 20 reads as follows:

A method for selective control of ragweed, comprising the step of spraying ragweed to a run-off point with a solution comprising 8% to 20% weight to volume of NaCl.

[40] Similarly, claim 26 reads:

Use of a solution comprising 8% to 20% weight to volume of NaCl for selective control of noxious weeds wherein said solution is in an amount sufficient to wet the noxious weeds to a run-off point.

[41] As noted above, the Board is presuming every element to be essential for the purposes of this analysis.

[42] The differences between claims 20 and 26 are immaterial insofar as the disagreement on the issue of anticipation is concerned as the ranges of NaCl (sodium chloride) concentrations are identical in both claims. The term "selective control" means that ragweed is killed while having only a temporary effect on grass; see present application at pg. 10.

[43] Claims 22 and 28 narrow the NaCl concentration to 8-12%, whereas claims 24 and 30 recite 12% NaCl.

[44] Claims 21, 23, 25, 27, 29, and 31 were not in dispute as they require an adjuvant. As there is no mention of any adjuvant in Grégoire *et al.*, these claims were found to be novel (i.e., not anticipated) by the Examiner.

#### Examiner's Position

[45] According to the Examiner, Grégoire *et al.* teaches spraying an aqueous solution of NaCl to control noxious weeds while causing temporary browning of any grass. The Examiner alleges that Grégoire *et al.* teaches a preferred embodiment of 9.5-14.5% NaCl. However, the reference also teaches a broader range of NaCl concentrations, ranging from 0.1 to 35.8% NaCl. With respect to the broader range, the Examiner states that the reference teaches that concentrations below 9.5% would simply require multiple treatments and that the maximum useful concentration to achieve selectivity could be readily determined by the person skilled in the art.

[46] The Examiner held that the Grégoire *et al.* publication was neither speculative, inoperative, nor would undue experimentation have been required to practice the teachings of Grégoire *et al.*, as had been alleged by the Applicant.

#### Applicant's Position

[47] From the Applicant's submissions, the anticipation analysis should consider whether Grégoire *et al.* passes the test for sufficiency of disclosure, which, the Applicant submits, considers utility. The Applicant submits that enablement for the purposes of anticipation and sufficiency of disclosure are equivalent, citing *Sanofi*.

[48] The Applicant notes that, because Grégoire *et al.* provides no data to establish utility, the teachings are merely speculative and thus cannot anticipate.

[49] Finally, the Applicant submits that Grégoire *et al.* incorrectly suggests that effectively any concentration of NaCl would be effective in selectively killing ragweed over grass.

#### Analysis

##### *Sufficiency of Disclosure in the Context of Anticipation*

[50] Utility and sufficiency of disclosure are separate considerations from the test for anticipation. Whether Grégoire *et al.* anticipates is to be determined by applying the test set out in *Sanofi* (see above at paras. 36 and 37).

[51] While the Act requires an invention to be useful (section 2) and requires applications to sufficiently describe the invention (subsection 27(3)), these are requirements to obtain a patent; they are not equivalent to the criteria for anticipation. The test for anticipation set out above is not

the same as the tests for utility and sufficiency of description.

[52] Contrary to the Applicant=s submissions, the Supreme Court did not equate enablement with sufficiency; the Court explicitly declined to address whether enablement under anticipation is equivalent to sufficiency under subsection 27(3) of the Act; see *Sanofi* at para. 26. It remains an open question.

[53] Nonetheless, if we were to accept the Applicant=s submission that enablement is equivalent to sufficiency under subsection 27(3), it does not assist the Applicant=s position. Enablement for the purposes of sufficiency of disclosure under subsection 27(3) requires a specification that enables the POSITA to make the same successful use of the invention as the inventor could at the time of his application; see *Teva Canada Ltd v Pfizer Canada Inc*, 2012 SCC 60, [2012] 3 SCR 625 at paras. 70 and 74.

[54] The Board is faced with the question of anticipation and therefore must apply the test set out in *Sanofi* (see paras 36 and 37 above).

*Does Grégoire et al. Disclose and Enable the Claimed Concentrations?*

[55] The Board finds that Grégoire *et al.* discloses and enables the concentrations recited in claims 20, 22, 24, 26, 28, and 30. Though experimental data is not disclosed therein, for the purposes of practical utility the teachings are equivalent to those of the present application.

[56] In the Board=s opinion, the POSITA would have understood from reading Grégoire *et al.* that 0.1-35.8% NaCl solutions would include embodiments that destroy and inhibit plant growth whereas the narrower preferred range of 9.5-14.5% NaCl would provide selective destruction of ragweed while causing, at most, temporary damage of grass.

[57] Indeed, it isn=t until the last paragraph of page 3 of Grégoire *et al.* that the first reference to selectivity is made. Prior to that, the description speaks exclusively of destroying and inhibiting plant growth. The final paragraph of page 3, on the other hand introduces the preferred range of 120 +/- 25 grams of NaCl per 1000 grams of water (9.5-14.5% NaCl), stating that higher concentrations may have a detrimental effect on some other plants: for instance grass.

[58] Thus, to selectively kill ragweed, Grégoire *et al.* directs the skilled reader to spray 9.5-14.5% NaCl solutions. No matter the concentration selected within the range, the skilled reader would be infringing claims 20 and 26 and the disclosure test for anticipation is satisfied.

[59] Regarding enablement, we disagree with the Applicant that experimentation would have been required for the skilled person to determine the operable range in which selectivity is achieved. As we just noted, Grégoire *et al.* disclosed that 9.5-14.5% NaCl solutions are selective. Moreover, pg. 7 of Grégoire *et al.* appears to show that NaCl solutions in the range of 9.5-14.5% have been found most effective. In our view, this suggests to the POSITA that tests conducted

on such solutions confirmed their efficacy.

[60] Equally, the range 8-12% as recited in claims 22 and 28, as well as the 12% NaCl recited in claims 24 and 30 are both disclosed and enabled by Grégoire *et al.* While concentrations as low as 8% are claimed in claims 20, 22, 26, and 28, the present description reveals that 8% is less effective than 12%. This is consistent with Grégoire *et al.* at pg. 4 where the POSITA is taught that several treatments may be required if a weak concentration of NaCl is used. Consistent with claims 24 and 30, Grégoire *et al.* teaches that 12% is preferred, plus-or-minus 2.5%.

[61] Finally, the Applicant submits that Grégoire *et al.* could not have been enabled as it took the Applicant over two years following the filing of the Grégoire *et al.* application to test the present invention. Indeed, while the test for enablement permits routine testing, A prolonged or arduous trial and error would not be considered routine;@ *Sanofi* at para. 37.

[62] Since Grégoire *et al.* teaches the effective range of salt concentrations required to selectively kill weeds, enablement only requires that the skilled person be able to make a salt solution within the range taught by Grégoire *et al.* and to spray it on crops. The Board concludes that the person skilled in the art would have no difficulty working the invention by following the instructions of Grégoire *et al.* The Applicant's submissions respecting the testing period do not provide compelling evidence to the contrary. The Applicant provided the Board with the results of tests related to varying: the concentrations of NaCl, the rates of application of solution, the species of plant and the inclusion of the adjuvant. These tests, while useful for understanding the nature and scope of the invention, do not impact the narrow question of enablement of the claims in question for the purposes of the test for anticipation. In these claims, the rate of application and concentration of the solutions are narrowly defined, there is no adjuvant present, and the only species being treated is ragweed.

### Conclusion

[63] Applying the tests for disclosure and enablement, the Board finds that Grégoire *et al.* both discloses and enables, and therefore anticipates, the subject matter of claims 20, 22, 24, 26, 28, and 30 of the present application.

[64] Given that the anticipated claims will need to be deleted, it is unnecessary to consider whether these claims would have been obvious, as alleged in the Supplemental Analysis.

### **ARE THE CLAIMS THAT RECITE ANY CHLORINATED SALT SOUNDLY PREDICTED?**

[65] The third issue concerns whether claims 1, 2 and 4-19 are defective under section 2 of the Act as the utility of Achlorinated salts@ other than NaCl is neither demonstrated nor soundly predicted. The Board notes that the only claim in the above set the Examiner did not find defective, claim 3, defined the salt as being sodium chloride (NaCl).

[66] During prosecution, the Examiner had identified this very same defect but was satisfied by a response from the Applicant in which data from tests conducted after the filing date of the application were furnished to support the prediction. Subsequently, the Court in *Eli Lilly v Apotex*, 2009 FCA 97 clarified that the disclosure must include the prediction. Thus, the Board asked the Examiner to revisit the matter in light of *Eli Lilly* and prepare a Supplemental Analysis, if necessary.

### Applicable Law

[67] The requirement that an invention be useful is found in section 2 of the *Patent Act* which states:

An invention means any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter.

[68] As of the date of application, there must be either a demonstration of the utility of the invention or a sound prediction of its utility: *Apotex Inc v Wellcome Foundation Ltd*, 2002 SCC 77 (AZT). In the present case, the Applicant relies on a sound prediction to establish the utility of Achlorinated salts as a herbicide for the control of noxious weeds.

[69] An invention that relies on a sound prediction of utility must satisfy three requirements (AZT):

- (1) there must be a factual basis for the prediction;
- (2) the inventor must have at the date of the patent application an articulable and A sound line of reasoning from which the desired result can be inferred from the factual basis; and,
- (3) there must be proper disclosure.

### Claims in Dispute

[70] Independent claim 1 reads as follows:

A foliar saline spray solution for control of noxious weeds, said solution comprising 8% to 20% weight to volume of at least one chlorinated salt, in combination with at least one adjuvant.

[71] In construing this claim, the Board notes that the term Achlorinated salts is broad and is not defined in the specification. In solution, salts will dissociate into their positively charged ions (or Acations) and negatively charged ions (or Aanions). NaCl, for example, dissociates into

sodium ions ( $\text{Na}^+$ ) and chloride ions ( $\text{Cl}^-$ ). A plausible meaning of "achlorinated salts" is any organic or inorganic salt that contains a chlorine atom in either the anion or cation. Minimally, it includes the chloride ( $\text{Cl}^-$ ), chlorite ( $\text{ClO}_2^-$ ) and hypochlorite ( $\text{ClO}^-$ ) containing salts included in claim 2.

[72] Dependent claim 2 narrows the "achlorinated salt" to the following salts: aluminum chloride, calcium chloride dihydrate, calcium chloride hexahydrate, calcium chloride anhydrous, calcium hypochlorite, ferric chloride hexahydrate, ferric chloride, ferrous chloride tetrahydrate, iodine chloride, lithium chloride, magnesium chloride hexahydrate, manganese chloride, potassium chloride, sodium chloride, sodium chlorite and zinc chloride.

[73] Claims 4 to 19 all refer back to claims 1 and 2 for their definition of "achlorinated salt." Other differences among these claims are immaterial insofar as the scope of "achlorinated salts" is concerned, and so the claims will stand or fall together based on the outcome of our analysis of claims 1 and 2.

[74] As noted above, the Board is presuming every element of the claims to be essential for the purposes of these analyses.

#### Examiner's Position in the Supplemental Analysis

[75] According to the Supplemental Analysis, the utility of NaCl to control noxious weeds was unduly extended to the genus of "achlorinated salts" since the prediction was based on examples which were limited to NaCl only. There is insufficient evidence to support the supposition that despite the large variance in structure, different "achlorinated salts" are equivalents that may be substituted one for another with the expectation that the herbicidal activity would be retained. Moreover, since it is not clear what characteristics of the NaCl lead to the promised herbicidal activity, there is nothing to base a prediction on. For these reasons, parts (2) and (3) of the AZT test were not satisfied because the disclosure did not include the line of reasoning needed to make the prediction a sound one.

#### The Applicant's Position

[76] The Applicant submits that the onus is on the Office to prove inutility, citing *Teva Canada Limited v. Novartis AG*, 2013 FC 141 and, in any event, that it has disclosed a sufficient basis to support a sound prediction.

[77] According to the Applicant, a person skilled in the art would be aware that since NaCl was shown to work, it could obviously be substituted with other chloride salts. The skilled person would be aware that it is the chloride or chlorinated ion in solution that is responsible for the herbicidal activity, and would immediately recognize that any equivalent chloride salt would have the same activity since all chloride salts work in the same way and have the same ionic strength.

This reasoning makes the prediction sound and it was well rooted in the common general knowledge of the POSITA before the filing date of the application. The Applicant further contends that supplementary data submitted during prosecution further demonstrates that the prediction was in fact sound.

[78] Notably, the Applicant focused only on the equivalence of chloride ions and chloride salts in their submissions without explaining why other non-chloride salts that fall within the scope of Achlorinated salts@ would be equivalent or substitutable. Both claims 1 and 2 contain embodiments which extend beyond chloride salts.

### Analysis

#### *Onus*

[79] The Board does not agree that *Teva* places the onus upon the Office to establish inutility; the Court in *Teva* was dealing with a patent and not a patent application. Whereas a patent enjoys a presumption of validity by virtue of subsection 43(2) of the Act, an application does not. For the Commissioner to grant a patent, the Applicant must satisfy the Commissioner that its application complies with the Act. Since the Examiner provided a reasoned basis for alleging that the prediction is not sound, the onus is on the Applicant to persuade the Commissioner that the claims are soundly predicted and therefore comply with the utility requirement under section 2 of the Act.

[80] Moreover, it is the Applicant=s responsibility to draft an application that satisfies the criteria for a sound prediction set out in *AZT* by disclosing the factual basis and sound line of reasoning. If either of these are omitted from the application, the application would not comply with section 2 of the Act and the Commissioner could not grant a patent.

#### *The Prediction*

[81] The prediction is that a foliar saline spray solution containing at least one Achlorinated salt@ in an amount of 8-20% w/v in combination with at least one adjuvant will be useful to control noxious weeds.

#### *Factual Basis*

[82] There are a number of tests disclosed in Examples 2-5 which demonstrate the effective use of NaCl at various concentrations (alone or in combination with an adjuvant) to control ragweed. Examples 3-5 also test a second salt, potassium nitrate, which is also shown to have an effect on ragweed, though it is not as effective as any of the NaCl solutions. Notably, this second salt does not contain chlorine.

#### *Line of Reasoning and Proper Disclosure*



[83] We agree with the Examiner that the line of reasoning outlined above by the Applicant at para. 75 is not disclosed in the description. However, if the line of reasoning would have been apparent to the person skilled in the art based on common general knowledge, then explicit disclosure is unnecessary (see MOPOP at 9.04.01b and 12.08.04b/c; and *Eurocopter v Bell Helicopter Textron Canada Limitée*, 2013 FCA 219 at para. 154).

[84] The first question is whether or not it is clear which characteristics of the salts lead to the promised utility. The Applicant claims that the person skilled in the art would immediately recognize that it is the chloride ion that is responsible for the herbicidal activity, and thus any chloride ion would be equivalent and substitutable since they all have the same ionic strength and work in the same way.

[85] In our view, we are unable to accept that a person skilled in the art would recognize that it is the chloride ion which is responsible for the herbicidal activity. There is nothing in the description to support this line of reasoning nor was evidence provided to establish that this was part of the common general knowledge of the person skilled in the art. Similarly, the description is silent regarding any connection between ionic strength and the herbicidal activity, and no evidence was provided to establish that the POSITA would have appreciated a connection between the herbicidal activity and the ionic strength.

[86] The second question is whether there is sufficient evidence to support the supposition that, despite the large variance in structure, different salts are equivalent and may be substituted one for another with the expectation that the herbicidal activity would be retained.

[87] Based on the evidence before us, we cannot accept the generalization that any Achlorinated salt<sup>o</sup> will be useful for the control of noxious weeds based on examples which test only one: sodium chloride. The factual basis and sound line of reasoning disclosed are not sufficient to predict that Achlorinated salts<sup>o</sup> other than NaCl from claims 1 or 2 would be effective herbicides to control noxious weeds.

[88] Finally, the Board notes that the supplementary data submitted during prosecution included post-filing test results. Following *AZT*, a sound prediction cannot be based on such results. The Board notes that even if the data had been obtained prior to the filing date of the present application, the only chlorine-containing salt tested was sodium chloride, so it would have not changed our finding.

### Conclusion

[89] In summary, the Board finds that claims 1, 2 and 4-19 are defective under section 2 of the Act as the prediction that all Achlorinated salts<sup>o</sup> would be useful to control noxious weeds is not sound.

**ARE THE CLAIMS THAT RECITE ANY ADJUVANT SOUNDLY PREDICTED?**

[90] The description teaches that the inclusion of a non-ionic surfactant improves the efficacy of the solution. Claims 1-11, 13-19, 21, 23, 25, 27, 29, and 31, all recite the inclusion of an Adjuvant B a term that is broader than, but can include, surfactants B in the saline solution. Some of the claims list various adjuvants contemplated by the Applicant, not all of which are non-ionic surfactants or are even surfactants at all.

[91] An example of these claims, claim 1, is set out in the previous section. Again, the Board is presuming in its construction of the claims that all elements are essential for the purposes of these analyses. As for Adjuvant, the Board construes this term to mean Aa compound that enhances the performance of an active ingredient, as noted in the Board's letter to the Applicant dated 5 June 2013. The Applicant did not dispute this definition. From the specification, the term adjuvant specifically includes more than 90 substances as listed in claim 7, such as oils.

[92] Given the finding on anticipation above, the presence of an adjuvant is necessary to distinguish over Grégoire *et al.* The prediction is that the addition of an adjuvant will improve coverage of the salt solution; see description at pp. 16 and 19.

[93] In the Supplemental Analysis, the Examiner found that these claims are not soundly predicted and do not comply with section 2 of the Act. The Examiner held that there was no basis to soundly predict that compounds beyond non-ionic surfactants would enhance herbicidal activity of NaCl solutions by improving coverage.

[94] The Applicant submitted that the invention is the saline solutions with or without the adjuvant and, as noted above, the onus is on the Office to provide evidence of inutility. The latter argument is addressed above and need not be reconsidered.

[95] The two tested non-ionic surfactants improved the performance of the saline solutions by improving coverage of the solutions such that an 8% NaCl solution performed as well as a 12% solution. Thus, adding a non-ionic surfactant to the solution permits the use of either a lower salt concentration or less solution. This is the factual basis. However, there does not appear to be a line of reasoning that supports the prediction that surfactants other than non-ionic ones will provide the same utility as the tested non-ionic surfactants. Further, the prediction that *any* adjuvant other than surfactants, including ones listed in claim 7, will produce this result finds even less support.

[96] At the hearing, the Applicant submitted that the adjuvant also serves to increase contact time of the salt on the weed. However, there is no mention in the description of increasing contact time by the addition of an adjuvant nor is there any evidence that the POSITA would have appreciated this. There appears to be no connection between an adjuvant that increases contact time and the factual basis of two non-ionic surfactants that improve coverage.

[97] Having established that two different non-ionic surfactants produce the desired result, it is reasonable to extrapolate that all non-ionic surfactants may be soundly predicted to work. However, there is neither evidence of common general knowledge nor any disclosure in the specification of an articulable line of reasoning to support a prediction that other kinds of adjuvants or surfactants other than non-ionic surfactants will produce the same result.

[98] Thus, the Board finds that the term "adjuvant" would need to be replaced by "non-ionic surfactant" in order for the claims to comply with section 2 of the Act.

## **OBVIOUSNESS**

[99] Given our findings in the preceding section, it is unnecessary to consider the question of obviousness with respect to the inclusion of an adjuvant given the required replacement of that term with "non-ionic surfactant." As stated in the Board's letter to the Applicant and as discussed at the second hearing, the question of obviousness only exists where the term "adjuvant" is taken in its broadest sense, that is, "a compound that enhances the performance of an active ingredient."

## **CONCLUSION**

[100] In light of the above reasons, the Board finds that:

- the defects identified in the Supplemental Analysis are to be considered in this review;
- claims 20, 22, 24, 26, 28, and 30 are anticipated in view of Grégoire *et al.*;
- claims 1, 2, and 4-19 do not comply with section 2 of the *Patent Act* as they encompass subject matter that is not soundly predicted with respect to the recited salts; and,
- claims 1-11, 13-19, 21, 23, 25, 27, 29, and 31 do not comply with section 2 of the *Patent Act* as they encompass subject matter that is not soundly predicted with respect to the recitation of adjuvants.

## **RECOMMENDATION OF THE BOARD**

[101] In light of the above findings, the Board recommends that the application be refused unless the Applicant makes the following amendments pursuant to subsection 31(b) of the *Patent Rules*:

- delete claims 20, 22, 24, 26, 28, and 30 as they are anticipated;
- amend claim 1 to recite that the solution comprises NaCl and delete claim 3;
- delete claim 2 as it claims more than was soundly predicted with respect to the recited salts;

- amend claims 9 and 10 to delete A<sub>said at least one salt</sub> and replace it with ANaCl;
- amend claim 1 by deleting A<sub>adjuvant</sub> and inserting A<sub>non-ionic surfactant</sub>;
- amend claims 7, 21, 23, 25, 27, 29, and 31 to delete adjuvants other than non-ionic surfactants; and,
- delete claim 8 as it pertains to adjuvants other than non-ionic surfactants; and
- renumber the remaining claims accordingly.

Mark Couture  
Member

Christine Teixeira  
Member

Cara Weir  
Member

## **DECISION OF THE COMMISSIONER**

[102] I concur with the recommendations of the Patent Appeal Board. Under subsection 31(b) of the *Patent Rules*, I invite the Applicant to make the amendments recommended by the Board within three months from the date of this decision.

[103] I advise the Applicant that:

(i) if the above amendments and only the above amendments are made within the specified time, the outstanding issues will be considered to have been overcome; and,

(ii) if the above amendments, and only the above amendments, are not made within the specified time, I intend to refuse the application.

Sylvain Laporte  
Commissioner of Patents

Dated at Gatineau, Quebec,  
this 15<sup>th</sup> day of January 2014

