

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 550,479, having been rejected under Subsection 47(2) of the Patent Rules, the Applicant has asked that the Final Action of the Examiner be reviewed. The rejection has consequently been considered by the Patent Appeal Board and by the Commissioner of Patents. The findings of the Board and the ruling of the Commissioner are as follows:

Applicant's representative

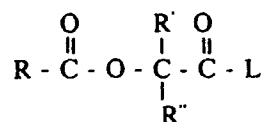
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This decision deals with the Applicant's request that the Commissioner of Patents review the Examiner's Final Action on patent application number 550,479 (Class 260-452) which was filed on October 28, 1987 for an invention entitled "GLYCOLATE ESTER PERACID PRECURSORS". The inventors are Ronald A. Fong, Sheldon N. Lewis, Richard J. Wiersema and Alfred G. Zielske and the application was assigned to The Clorox Company. The Examiner in charge issued the Final Action on November 15, 1991 refusing claims 1, 9, 13, 23, 25, 34 and 45 on a variety of grounds and the Applicant replied on May 15, 1992 requesting a review by the Commissioner of Patents and an oral hearing before the Patent Appeal Board. Consequently an oral hearing was held on July 13, 1994 at which Mr. B. Latham of Riches, McKenzie & Herbert represented the Applicant, Mr. R. B. Price and Mr. H. Koenig represented the Patent Branch and the Board was comprised of Mr. P. J. Davies as chairman and Mr. M. Wilson and Dr. M. Howarth as members.

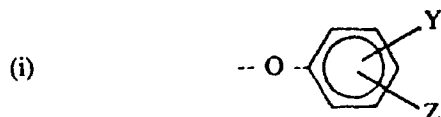
The subject matter disclosed in the application relates to a new class of peracid precursors and compositions useful in providing efficient bleaching of textiles over a wide range of wash temperatures, but particularly at low temperatures of less than 50°C. When one of the peracid precursors of the invention is combined with a source of hydrogen peroxide the reaction results in the formation of a peracid and under certain circumstances unique to the invention in the formation of a mixture of peracids. The structure and reactivity of the compounds are unique in that higher yields of peracids can be obtained across a broader pH range and temperature than conventional fatty acid based bleach activators. The peracid precursors are also superior to prior art compounds in that their effectiveness is not as substantially tied to the hydrogen peroxide/precursor molar ratio.

The application contains claims 1 to 46 directed to (i) novel bleaching compositions comprising defined peracid precursors, (ii) novel peracid precursors, (iii) novel peracids and (iv) alkaline and alkaline earth salts of the novel peracids. Rejected claims 1, 9, 13, 23, 25, 34 and 45 are as follows:

1. A bleaching composition comprising;
 - (a) a peracid precursor having the general structure:



wherein R is C₁₋₂₀ linear or branched alkyl, alkoxyalkyl, cycloalkyl, aryl, alkylaryl, substituted aryl; R' and R'' are independently H, C₁₋₂₀ alkyl, aryl, C₁₋₂₀ alkylaryl, substituted aryl, and NR₃⁺, wherein R⁺ is C₁₋₂₀ alkyl; and L is a leaving group selected from the group consisting of:



wherein Y and Z, which can be the same or different, are H, SO₃M, CO₂M, SO₂M, OH, halo substituent, -OR², R³, NR₃⁺X, wherein M is an alkali metal or alkaline earth metal counterion, R² of OR² is C₁₋₂₀ alkyl, R³ is C₁₋₄ alkyl, R⁴ of NR₃⁺ is C₁₋₂₀ alkyl and X is a counterpart ion thereto;

- (ii) halide;

(iii) $-\text{ONR}^6$, wherein R^6 contains at least one carbon which is singly or doubly bonded directly to N; and

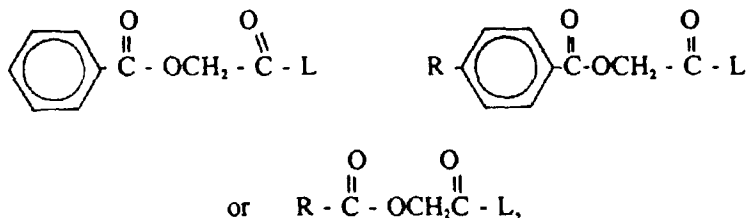
(iv) $-\text{O}-\overset{\text{O}}{\parallel}{\text{C}}-\text{R}^{14}$, wherein R^{14} is C_{1-10} alkyl; and

(b) a bleach-effective amount of a source of hydrogen peroxide.

9 The bleaching composition of claim 1 wherein L is $-\text{O}-\text{N}-\text{R}^6$, wherein R^6 contains at least one carbon atom which is singly or doubly bonded directly to N

13. A bleaching composition comprising:

(a) a peracid precursor having the structure

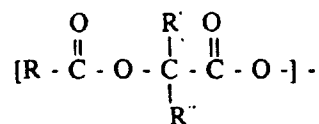


wherein R is C_{1-20} alkyl, and L is a leaving group selected from the group consisting essentially of substituted phenol, oxime, amine oxide, and oxyimide; and

(b) a bleach effective amount of a source of hydrogen peroxide.

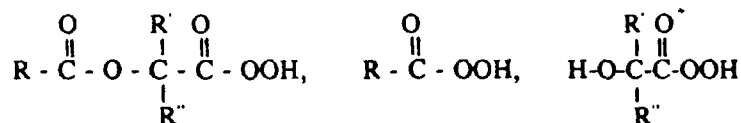
23. A bleaching composition comprising:

(a) a compound which includes the substituent

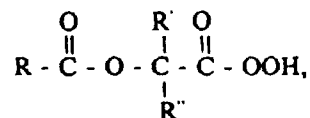


wherein R is C_{4-17} linear, branched alkyl, alkylaryl, alkoxyalkyl, and aryl or substituted aryl; R' and R'' are independently H, C_{1-20} alkyl, aryl, C_{1-20} alkylaryl, substituted aryl, and NR_3^+ , wherein R^3 is C_{1-20} alkyl; and

(b) a bleach effective amount of a source of hydrogen peroxide; said composition providing about 0.5 to 100 ppm peracid A.O. in aqueous media, said peracid A.O. being provided by a mixture of the following structures:

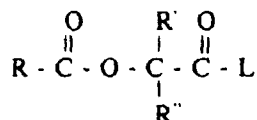


25. A peracid of the structure

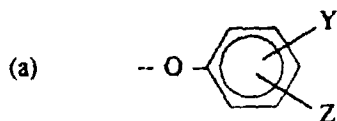


wherein R is C₁₋₂₀ linear or branched alkyl, alkoxyated alkyl, cycloalkyl, aryl, alkyl substituted aryl; and R' and R'' are independently H, C₁₋₂₀ alkyl, aryl, C₁₋₂₀ alkylaryl, substituted aryl, and NR₃⁺, wherein R' is C₁₋₂₀ alkyl.

34. A peracid precursor of the structure



wherein R is a C₁₋₂₀ straight or branched chain alkyl, alkoxyated alkyl, cycloalkyl, aryl, alkyl substituted or aryl; R' and R'' are independently H, C₁₋₂₀ alkyl, aryl, C₁₋₂₀ alkylaryl, substituted aryl, and NR₃⁺, wherein R' is C₁₋₂₀ alkyl; and L is a leaving group selected from:

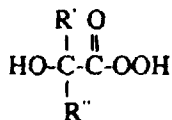


wherein Y and Z are individually H, SO₃M, CO₂M, SO₂M, OH, halogen, -OR², R³, or NR₃⁺X, wherein M is an alkali metal or alkaline earth metal counterion, R² of OR² is C₁₋₂₀ alkyl, R³ is C₁₋₄ alkyl, R⁴ of NR₃⁺ is C₁₋₂₀ alkyl, X is a counterpart ion, and Y and Z can be the same or different;

(b) -ONR⁶, wherein R⁶ comprises at least one carbon which is singly or doubly bonded directly to N; and



45. The alkali and alkaline earth salts of the peracid

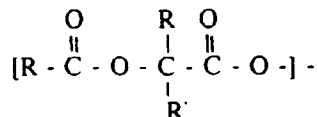


wherein R' and R'' are independently H, C₁₋₂₀ alkyl, aryl, C₁₋₂₀ alkylaryl, substituted aryl, and NR₃⁺, wherein R' is C₁₋₂₀ alkyl.

In the Final Action claims 1, 9, 13, 23, 25, 34 and 45 were rejected with the remainder of the claims being declared allowable. The following extracts from the Final Action show the objections to the claims made by the Examiner:

Claims 1, 13, 23, 25, 34 and 45 remain rejected under Section 34(2) of the Patent Act as being indefinite. The use of the term "substituted" without any indication of what the substituent may be, does not define with adequate specificity that which applicant has disclosed.

.....
Claim 23 remains rejected under Section 34(2) of the Patent Act as being indefinite because the expression "a compound which includes the substituent



is vague and indefinite. The scope of this expression cannot be determined with certainty without reference to the disclosure. Moreover, this expression is so broad that it covers every possibility of this radical being bonded to any compound, many of which applicant has not taught or can predict with certainty.

.....
Claims 1, 9 and 34 remain rejected under Section 34(2) of the Patent Act as being indefinite because the scope of the expression "R⁶ contains at least one carbon which is singly or doubly bonded directly to N" is indeterminable. The complete structure of the radical is left to conjecture as the said expression fails to recite sufficient elements for proper determination of scope. Moreover, this expression is so broad that it embraces all possible means without qualification, and, is therefore broader in scope than the teaching of the disclosure (see page 16).

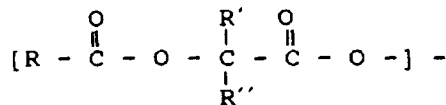
There are therefore three objections to the rejected claims with more than one objection applying to more than one claim in some cases. For instance claims 1 and 34 are rejected because they both contain the expression "substituted" and the expression "ONR⁶". The Board also notes that, whilst the remaining claims were declared to be allowable, some of them nevertheless contain the same expressions that the Examiner has objected to in the Final Action in the sense that they depend on the rejected claims; thus claims 2, 3, 9 and 46 contain the expression "ONR⁶", whilst claims 4 to 12, 24, 30, 39 and 46 all refer to the term "substituted". The Board will therefore proceed on the basis that the objections made by the Examiner apply to these claims as well.

At the conclusion of the Final Action the Examiner brought the attention of the Applicant to minor errors in claims 13 and 34 which he suggested be corrected, i.e. that the presence of the word "essentially" in claim 13 made the claim ambiguous and that the word "or" should not appear in the expression "substituted or aryl" used in claim 34. In a separate response filed on May 15, 1992 the Applicant submitted new claim pages with the above corrections made. At the hearing the Applicant also submitted further proposed amendments to correct other not previously noticed typographical errors in claims 24 and 46, detailed as follows:

- Claim 24, line 2 to replace "butter" by --buffer-- and to replace "impact by --impart--, and
- claim 46, line 2 to replace "substituted aryl" by --R' and R"--

Since the above amendments are of a minor nature the Board sees no reason why they should not be made and therefore recommends that the new claim pages provided by the Applicant be entered.

Turning now to the basis of the Final Action there are three issues to be determined by the Board namely: (1) whether or not the term "substituted" as used in the claims is broad and indefinite, (2) whether or not the expression "R⁶" contains at least one carbon which is singly or doubly bonded directly to N" is indeterminate in scope and (3) whether or not the use of the term "a compound which includes the substituent



in claim 23 is vague and indefinite.

Turning to the first grounds of objection, i.e. the use of the term "substituted", the Board notes the term is used in several different situations throughout the claims. In claims 1, 13 and 23 which claim bleaching compositions comprising two constituents the use of "substituted" occurs in the definition of the groups R, R' and R'' which form part of the peracid precursor which is one of the constituents of the claimed bleach composition, in claim 25 in the definition of the specific peracids claimed, in claim 34 in the definition of the specific peracid precursors claimed, and in claim 45 in the definition of the alkali and alkaline earth metal salts of the peracids claimed. It therefore appears to be the Examiner's position that the term "substituted" is inherently broad and indefinite wherever it occurs in the claims and whatever is claimed in the claims be it compounds or compositions. As the Applicant has noted there are other expressions used in the claims which might have been objected to on similar grounds such as the term C₁₋₂₀ alkyl used throughout the claims; however the Examiner has zeroed in on the term "substituted" as being inherently indefinite.

In the Final Action the Examiner has argued that a person skilled in the art would not be able to ascertain the scope of the term without making reference to the disclosure for completeness and clarity. The Examiner stated that:

Applicant states in part, at page 2 of his response of August 13, 1991:

"... because of the full teachings of the disclosure, particularly in reference to the use of the term "substituted", the skilled man with his expected knowledge would know what is meant by the term "substituted" and what substituents were appropriate". (paragraph 1; emphasis added)

Applicant's statement indicates that in order to determine the scope of the expression "substituted", a skilled person in the art must refer to the disclosure to determine what the substituents are. This meaning is supported by applicant's statement in paragraph 2 wherein he states, in part, "The teachings assist the skilled man in the art to select appropriate substituents...". Therefore, applicant has argued that reference to the disclosure for completeness and clarity is permissible; however, examiner disagrees. The claims must be clear, distinct, and independent of the disclosure as required by Section 34(2) of the Patent Act.

In its response dated May 15, 1992 the Applicant has submitted that the Examiner is incorrectly paraphrasing the Applicant's statements in that the Applicant is not stating that it is necessary to refer to the disclosure to determine the scope of the term "substituted" but rather that there is nothing in the disclosure or claims that would be inconsistent with what the person skilled in the art with his expected knowledge would understand as being the meaning of the term.

In construing the term "substituted" one can refer to dictionary definitions of the term, thus Webster's Third New International Dictionary, 1968 defines substituted as:

"put in the place of another; appointed by a person to take the place of himself or another or of something else and esp. to act in his own stead or to act on the happening of a particular event in the stead of another; appointed by substitution; having been subjected to a substitution reaction or having some of its parts replaced < alcohol is a substituted water > < methylamine is a substituted ammonia >.

The International Encyclopedia of Chemical Science, 1964 defines a substituted compound as:

A compound derived from a parent by substitution, e.g., toluene from benzene by substitution of methyl for hydrogen. Derivatives of this type are often spoken of as substituted benzenes, substituted naphthalenes, substituted phenols, substituted amines, etc.

whilst The Condensed Chemical Dictionary defines substitution as

Any chemical reaction in which one element replaces another in a compound. Chlorination of benzene to produce chlorobenzene is a typical example; in this case chlorine replaces hydrogen in the benzene molecule.

From the dictionary definitions it is seen that the term "substituted" has a very broad meaning and as used in the application in the expression "substituted aryl" can be clearly taken to encompass any substituent that may be attached to an aryl ring. Whilst this would obviously include a theoretically incalculable number of specific embodiments this in the opinion of the Board does not necessarily render the term inherently indefinite. As the Applicant pointed out at the hearing a person skilled in the art would easily recognize whether any particular group falls within the scope of "substituted aryl" so that the expression is not in fact indefinite in scope. The Board is therefore of the opinion that the term "substituted" is not inherently indefinite since it has a clear and specific meaning to a person skilled in the art. In view of this clear meaning in the art it is not therefore necessary to refer to the disclosure for the definition of the term.

In presenting its case the Applicant has referred to several court decisions, such as the Supreme Court decision in Burton Parsons Chemicals Inc. et al. v. Hewlett-Packard (Canada) Ltd. et al. 17 C.P.R. (2d) 97. In this case Burton Parsons had patented a cream to be used in taking electrocardiograms, the purpose of the cream being to provide a good electrical connection between the electrodes of the machine and the body. The cream was claimed as follows:...An electrocardiograph cream for use with skin contact electrodes and compatible with normal skin, comprising a stable aqueous emulsion that is anionic, cationic or non-ionic and containing sufficient highly ionizable salt to provide good electrical conductivity. In declaring the claim valid Pigeon, J. delivering the judgment of the court stated, at page 104, that:

In my view, the rights of patentees should not be defeated by such technicalities. While the construction of a patent is for the Court, like that of any other legal document, it is however to be done on the basis that the addressee is a man skilled in the art and the knowledge such a man is expected to possess is to be taken into consideration. To such a man it must be obvious that a cream for use with skin contact electrodes is not to be made up with ingredients that are toxic or irritating or are apt to stain or discolour the skin. The man skilled in the art will just as well appreciate this necessity if the cream to be made is described as "compatible with normal skin" as if it is described as containing only ingredients compatible with

normal skin. The situation here is completely unlike that in either the *Minerals Separation* case or in *Société des Usines Chimiques Rhône-Poulenc et al. v. Jules R. Gilbert Ltd. et al.* (1968), 55 C.P.R. 207, 69 D.L.R. (2d) 353, [1968] S.C.R. 950. In those cases the object of the patent was some substances of a definite chemical composition: xanthates in the first, substituted diamines in the second. Unfortunately for the patentees, the claims covered at the same time some xanthates which would not yield the desirable result in one case, and, in the other, some isomers which would not be therapeutically valuable. This is what was held fatal to the validity of the patents.

and further, at page 106, that:

It is stressed in many cases that an inventor is free to make his claims as narrow as he sees fit in order to protect himself from the invalidity which will ensue if he makes them too broad. From a practical point of view, this freedom is really quite limited because if, in order to guard against possible invalidity, some area is left open between what is the invention as disclosed and what is covered by the claims, the patent may be just as worthless as if it was invalid. Everybody will be free to use the invention in the unfenced area. It does not seem to me that inventors are to be looked upon as Shylock claiming his pound of flesh. In the present case, there was admittedly a meritorious invention and Hewlett-Packard, after futile efforts to belittle its usefulness, brazenly appropriated it. It was in no way misled as to the true nature of the disclosure nor as to the proper methods of making a competing cream. The objections raised against the claims really are that, except those pertaining to some specific embodiments of the invention, the others are so framed as to cover every practical embodiment, leaving to the man skilled in the art, the task of avoiding unsuitable materials in the making of the mixture, a task which any man skilled in the art ought to be able to perform without having to be told because any unsuitability depends on well-known properties. No unexpected or generally unknown unsuitability was proved or even suggested, which makes this case quite unlike *Minerals Separation* or *Rhône-Poulenc*.

The Applicant has also referred to the Federal Court, Trial Division decision in *Lubrizol Corporation et al. v. Imperial Oil Ltd.* 33 C.P.R. (3d) 1, affirmed by the Federal Court of Appeal 45 C.P.R. (3d) 449, where the Court referred to the reasoning in *Beecham Canada Ltd. v. Procter & Gamble Co.* 61 C.P.R. (2d) 1. This case dealt with infringement of a patent for improved succinimide dispersant additives for use in preparing motor oils. In construing the claims of the patent and coming to the conclusion that they were valid and infringed the Court stated, at page 12, that:

When examining the claims, the language of the claims is to be given a purposive construction rather than a literal one. Further, the claims should not be interpreted to exclude minor variants which, to the knowledge of the inventor and the readers of the patent, would have no material effect upon the way in which the invention works.

"A patent specification should be given a purposive construction rather than a purely literal one derived from applying to it the kind of meticulous verbal analysis in which lawyers are too often tempted by their training to indulge. The question in each case is: whether persons skilled with practical knowledge and experience of the kind of work in which the invention was intended to be used, would understand that strict compliance with a particular descriptive word or phrase appearing in a claim was intended by the patentee to be an essential requirement of the invention so that any variant would fall outside the monopoly claimed, even though it could have no material effect upon the way the invention worked".

(Urie J. in *Beecham Canada Ltd. v. Procter & Gamble Co.* (1982), 61 C.P.R. (2d) 1 at p. 10, 40 N.R. 313 (F.C.A.), quoting Lord Diplock in *Carnic Components Ltd. v. Hill & Smith Ltd.* (1980), 7 F.S.R. 60 at pp. 65-6. Emphasis is Urie J.'s)

Also, the claims are to be construed on the basis that the addressee is a person skilled in the art, and the knowledge such a person is expected to possess is to be taken into consideration: *Burton Parsons Chemicals Inc. v. Hewlett-Packard (Canada) Ltd.* (1974), 17 C.P.R. (2d) 97, 54 D.L.R. (3d) 711, [1976] 1 S.C.R. 555.

According to Urie J in *Beecham*, at p. 11:

...in construing the claims in a patent recourse to the remainder of the specification is (a) permissible only to assist in understanding terms used in the claims; (b) unnecessary where the words of the claim are plain and unambiguous; and (c) improper to vary the scope or ambit of the claims.

In determining the scope of protection given to an invention in a patent, the claims must be determined in the light of technical vocabulary used in the inventor's field. The specification may assist in the analysis of the claims. As Rouleau J. stated in *Hy Kramer Canada Ltd. v. Lindsay Specialty Products Ltd.* (1986), 9 C.P.R. (3d) 297 (F.C.T.D.), at p. 310:

The claims, defining the scope of the monopoly (see *Harrison et al. v. Anderston Foundry Co.* (1875-76), 1 App. Cas. 574 at p. 581 (H.L.)), are to be interpreted by applying the common vocabulary of the art. In doing so, the specification, by its phraseology and the drawings, by their illustrations, may assist but should not be used to vary or enlarge the claims, especially if, as H.G. Fox wrote, *supra*, at pp. 217-8):

"...a claim is expressed in simple and direct language or in wide or general terms whose meaning is plain and unequivocal. If the words of the claim are plain and unambiguous it will not be possible to expand or limit their scope by reference to the body of the specification. In such a case "recourse to the body of the specification for explanation, qualification or extension is neither required nor is legitimate."

The Board has considered the court decisions cited by the Applicant and agrees that they support the Applicant's contention that the Examiner's rejection of the claims is not sustainable in law.

Whilst the Board does not believe that the term "substituted" is inherently indefinite it does acknowledge that the term is extremely broad. The question then becomes: Is it proper for the applicant to be allowed to claim so broadly? The Applicant claims that such broad claims should be allowed so that the Applicant can obtain the protection to which it asserts it is entitled to. The Applicant's position is that broad claims are necessary to avoid the possibility that a subsequent party might be able to claim specific embodiments of Applicant's invention that are outside those claimed and therefore appropriate Applicant's inventive concept. In this case the inventive concept resides in the particular chemical structure disclosed rather than in the specific values for the groups R, R' and R'' attached to that structure so that if the Applicant is forced to restrict the definition of the R groups to those disclosed either in the descriptive part of the disclosure or to those disclosed in the specific examples it would be easy for another to find and claim values for the R groups which are not claimed and therefore to appropriate the essence of Applicant's invention.

The Board notes at this point that whilst the Examiner refused the term "substituted" he gave no indication what would be considered an acceptable replacement for the term. Thus the Applicant was given no guidance as to what the Examiner would consider allowable. It is also noted that at no time was prior art cited against any of the claims nor was there any finding that any of the embodiments claimed could be considered to lack utility. The Applicant's position is that it should be allowed to claim broadly in the absence of any prior art or finding of non-utility and it is pointed that the consequences of claiming too

broadly will be borne by the Applicant if the validity of the patent is questioned. It is the Applicant's wish to claim its invention as broadly as possible to adequately protect its invention and it is prepared to take the consequences of any possible overclaiming. However it is the Examiner's position that the claims are clearly too broad and must be restricted.

In considering this question the Board must consider Section 40 of the Patent Act under which the application has been rejected. Section 40 is as follows:

Whenever the Commissioner is satisfied that an applicant is not by law entitled to be granted a patent, he shall refuse the application and, by registered letter addressed to the applicant or his registered agent, notify the applicant of the refusal and of the ground or reason therefor.

It is apparent therefore that before the Commissioner can reject an application he must be satisfied that the applicant is not entitled by law to a patent, i.e. that there has to be a fundamental reason based in either the Patent Act itself or in applicable jurisprudence for not granting a patent. This principle was confirmed by the Supreme Court in its decision in Monsanto Co. v. Commissioner of Patents 42 C.P.R. (2d) 161 where it was stated, at page 177, that:

It will be noted that with respect to claim 9 all that is said to reject it as not being based on a sound prediction is: "We are not satisfied that three specific examples are adequate support for the breadth of the claim". On what basis is it so? The Board gives absolutely no indication. If a refusal can be justified on that basis, the right of appeal conferred by s. 44 of the *Patent Act*, R.S.C. 1970, c. P-4, is useless in such cases.

44. Every person who has failed to obtain a patent by reason of a refusal or objection of the Commissioner to grant it may, at any time within six months after notice as provided for in sections 42 and 43 has been mailed, appeal from the decision of the Commissioner to the Federal Court and that Court has exclusive jurisdiction to hear and determine such appeal.

Although the report of the Board is quite lengthy, in the end with respect to claim 9 all it says after stating the principle with which I agree, is that a claim has to be restricted to the area of sound prediction and "we are not satisfied that three specific examples are adequate". As to why three is not enough nothing is said. In my view this is to give no reason at all in a matter which is not of speculation but of exact science. We are no longer in the days when the architecture of chemical compounds was a mystery. By means of modern techniques, chemists are now able to map out in detail the exact disposition of every atom in very complex molecules. It, therefore, becomes possible to ascertain, as was done in *Olin Mathieson*, the exact position of a given radical and also to relate this position to a specific activity. It thus becomes possible to predict the utility of a substance including such radical. As this is a matter of general knowledge among scientists, it will be readily apparent to a competent person that if a patent covers only a few of the substances which yield the desired result, all he has to do is to prepare another which will have the same properties. The report of the Board indicates that it is aware of this. However, it gives no indication of the reasons for which it was not satisfied of the soundness of the prediction of utility for the whole area covered by claim 9. Evidence had been submitted in the form of affidavits based on scientific principles, it does not take issue with those principles, it just says: "We are not satisfied that this is adequate". In my view this is insufficient because, if accepted, it makes the right of appeal illusory. In this respect it is important to note that s. 42 of the *Patent Act* reads:

42. Whenever the Commissioner is satisfied is not by law entitled to be granted a patent he shall refuse the application and, by registered letter addressed to the applicant or his registered agent, notify the applicant of such refusal and of the ground or reason therefor.

I have emphasized *by law* to stress that this is not a matter of discretion: the Commissioner has to justify any refusal. As Duff, C.J., said in *Vanity Fair Silk Mills v. Commissioner of Patents*, [1938] 4 D.L.R. 657, [1939] S.C.R. 245 at p. 246:

No doubt the Commissioner of Patents ought not to refuse an application for a patent unless it is clearly without substantial foundation.

and further, at page 179, that:

..... In the instant case, the Board, in spite of a complete absence of any evidence of unsoundness of the prediction, deny the claims and would in the end limit them to the area of *proved utility* instead of allowing them to the extent of *predicted utility*. In my view this is contrary to s. 42 of the *Patent Act*.

Under that section the Commissioner is instructed to refuse the patent when "satisfied that the applicant is not by law entitled" to it. Here what he has said in approving the decision of the Board is in effect "I am not satisfied you are entitled to it". In my opinion the Commissioner cannot refuse a patent because the inventor has not fully tested and proved it in all its claimed applications. This is what he has done in this case by refusing to allow claims 9 and 16 unless restricted to what had been tested and proved before the application was filed. If the inventors have claimed more than what they have invented and included substances which are devoid of utility, their claims will be open to attack. But in order to succeed, such attack will have to be supported by evidence of lack of utility. At present there is no such evidence and there is no evidence that the prediction of utility for every compound named is not sound and reasonable.

Applying the above principle to the present case the Board has come to the conclusion that it has not been shown that the Applicant is not by law entitled to a patent.

Furthermore the *Monsanto* case, *supra*, also shows that an applicant for a patent may make a broad claim to a group of compounds based on a smaller group of specific examples if there is a sound prediction that the members of the broad group will all exhibit the same properties as the members of the smaller group and there has been no evidence of any lack of utility. The findings of the court in this respect are illustrated by the following quotation from page 175:

.....As to para. 2, I find it in line with observations made in the judgment of this Court in *Burton Parsons v. Hewlett-Packard*, *supra*, (at pp. 106-7 C.P.R., pp. 564-5 S.C.R.). After a third paragraph which is of no relevance because it deals with compulsory licences for drug patents, Graham, J., said (at p. 193):

Where, then, is the line to be drawn between a claim which goes beyond the consideration and one which equiparates with it? In my judgment this line was drawn properly by Sir Lionel when he very helpfully stated in the words quoted above that it depended upon whether or not it was possible to make a sound prediction. If it is possible for the patentee to make a sound prediction and to frame a claim which does not go beyond the limits within which the prediction remains sound, then he is entitled to do so. Of course, in so doing he takes the risk that a defendant may be able to show that his prediction is unsound or that some bodies falling within the words he has used have no utility or are old or obvious or that some promise he has made in his specification is false in a material respect; but if, when attacked, he survives this risk successfully, then his claim does not go beyond the consideration given by his disclosure, his claim is fairly based on such disclosure in these respects, and is valid.

I have quoted again the passage quoted by the Board because I consider the last sentence of the paragraph of some importance as it does clearly indicate what is meant by a "sound prediction". It cannot mean a certainty since it does not exclude all risk that some of the area covered may prove devoid of utility. It thus appears to me that the test formulated by Graham, J., involves just two possible reasons for rejecting claims such as those in issue.

1. There is evidence of lack of utility in respect of some of the area covered;
2. It is not a sound prediction.

In the present case the Examiner has presented no evidence of lack of utility for any of the embodiments covered by the term "substituted" nor has it been shown that it is not a sound prediction to say that all of the embodiments covered by the term "substituted" will have the same properties as the embodiments described in the specific examples. The Board therefore believes that the Monsanto case supports the Applicant's position that the claims should be allowed.

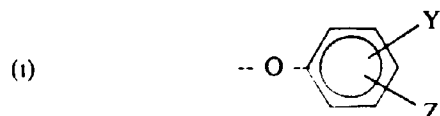
At the hearing the examiner now in charge of the application referred to the decision in Noranda Mines Ltd. v. Mineral Separation North American Corp. 10 C.P.R. 99 to support his contention that the claims should be refused. The examiner believes that the term "substituted" is inherently indefinite so that reference to the disclosure is necessary in order to properly define its scope as used in the claims. Since the disclosure in its definition of the type of groups covered by the term "substituted" is allegedly indefinite the claims are likewise indefinite. However since the Board has found the term "substituted" not to be inherently indefinite the Board finds the Noranda Mines v. Mineral Separation case not to be applicable in this particular respect. The case is relevant in another respect however in that it confirms that a claim is invalid if it includes embodiments that plainly lack utility; thus the claims in question were held to be invalid because they included reference to xanthates some of which were known at the time to be useless in the claimed process. In the present case there has been no suggestion that any of the embodiments covered by the term "substituted" lack utility so that in the opinion of the Board the claims cannot be rejected on those grounds.

In addition no prior art has been cited which could narrow the scope of the claims, there has been no finding that it is not a sound prediction that all of the groups covered by the term "substituted" will not be useful [see Monsanto, supra], and no finding that a person skilled in the art would not be able to determine what groups to select to produce operable combinations [see Burton-Parsons, supra] and no finding that any of the embodiments lack utility [see Noranda Mines, supra]. The Board therefore recommends that the rejection of claims 1, 9, 13, 23, 25, 34 and 45 as being indefinite for using the term "substituted" be withdrawn.

As presently written claim 13 defines leaving group L as, inter alia, "substituted phenol" and at the hearing the Applicant indicated that it wished to replace that definition with one of the following proposed amendments detailed on page 8 of the submitted pages:

- B. "phenol, substituted phenol"
- C. "phenol, phenoxide, substituted phenoxide" or

D. "adopt paragraph of claim 1(a)(i), namely:



wherein Y and Z, which can be the same or different, are H, SO₃M, CO₂M, SO₃M, OH, halo substituent, -OR¹, R¹, NR₃⁺X⁻, wherein M is an alkali metal or alkaline earth metal counterion, R¹ of OR¹ is C₁₋₂₀ alkyl, R³ is C₁₋₆ alkyl, R⁴ of NR₃⁺ is C₁₋₃₀ alkyl and X is a counterpart ion thereto.

While the Board has decided that the term "substituted" is not open to rejection in this case it nevertheless considers that alternative D is the most preferable alternative out of the three amendments proposed since it is the one which is most consistent with the definition of leaving group L in claim 1. In the Board's opinion alternatives B and C are somewhat inaccurate in that they refer to "phenol" or "phenoxide" rather than to the more correct "phenoxy" radical.

Turning now to the rejection of claim 23 as being indefinite. The Applicant has characterized the Examiner's rejection as being more a rejection based on the claim being a claim to the compounds themselves rather than one to a group of compositions. It is the Applicant's argument that since it is a combination of two components that are being claimed it is permissible to define component (a) in a more functional manner than would normally be the case. Thus in choosing component (a) a person skilled in the art would be able to make a proper selection from the various possibilities and avoid useless or inoperative embodiments. In the Board's opinion this case closely parallels that of the *Burton Parsons* case, *supra* and therefore the Board considers the claim allowable. Again the Board notes that no prior art has been cited against the claim, nor has there been any finding of lack of utility nor any finding that it is not a sound prediction that any compound having the designated substituent will not produce the desired result. In claim 23 all that is required of the missing part of the compound claimed is that it act as a substrate for the inventive substituent and not interfere with the reaction of that substituent with the source of hydrogen peroxide. Also in the Board's opinion if the Applicant is required to limit the claim to the specific embodiments it may allow others to take the essence of the invention by choosing groups outside those actually claimed. In sum as was said when discussing the term "substituted" the applicant should be allowed to claim as broadly as possible in the absence of any prior art, finding of lack of utility or finding of a lack of sound prediction. Since none of the above conditions prevail with regard to the claim the Board recommends that the rejection of this claim also be withdrawn. In view of this there is no need to consider the proposed amendments to the claim submitted at the hearing.

With respect to the rejection of claims 1, 9 and 34 as being indefinite because the scope of the expression "R⁶ contains at least one carbon which is singly or doubly bonded to N" is indeterminable the Board is of the opinion that the rejection is proper for the following reason. The Applicant by defining the group R⁶ in the group ONR⁶ in the way it has done so has rendered the claim inherently indefinite. Thus when R⁶ comprises a carbon atom singly bonded to N the ONR group is not fully defined as there should be another group attached to the nitrogen group to satisfy its trivalent nature. In other words one is left guessing

as to what other group needs to be attached to the nitrogen group, i.e. one has the group O-N-C where the ? is indeterminate

|
?

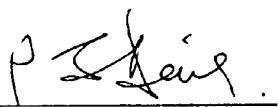
and not defined in the disclosure. While the Board appreciates that the Applicant is probably attempting to claim the disclosed groupings O-N=C and O-N-C these are not the groups actually

|
C

claimed. For this reason the Board believes that the Examiner's rejection must be sustained. However the alternative wording suggested by the Applicant on page 9 of its submission: to wit "a leaving group selected from the group comprising oxime, oxyimide and amine oxide " avoids this indefiniteness and the Board recommends that it should be adopted.

In conclusion the Board recommends that:

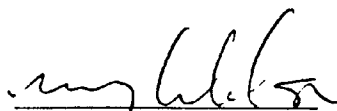
1. the minor amendments to claims 13, 24, 34 and 46 previously discussed be made,
2. the rejection of claims 1, 9, 13, 23, 25, 34 and 45 as being indefinite for the use of the term "substituted" be withdrawn
3. claim 13 be amended to replace the definition of leaving group as "substituted phenol" by the wording given as amendment D on page 8 of Applicant's proposed amendment pages
4. the rejection of claims 23 for its definition of component (a) of the composition claimed be withdrawn, and
5. claims 1,9 and 34 be amended by replacing the definition of the group R⁶ in the group ONR⁶ as being comprised at least carbon which is singly or doubly bonded directly to N be replaced by the wording shown in alternative B on page 9 of Applicant's proposed amendment pages.



P.J. Davies
Acting Chairman
Patent Appeal Board



M. Howarth
Member
Patent Appeal Board



M. Wilson
Member
Patent Appeal Board

I concur with the findings and recommendations of the Patent Appeal Board and consequently order that the following recommendations of the Board be implemented:

1. the minor amendments to claims 13, 24, 34 and 46 previously discussed be made,
2. the rejection of claims 1, 9, 13, 23, 25, 34 and 45 as being indefinite for the use of the term "substituted" be withdrawn,
3. claim 13 be amended to replace the definition of leaving group as "substituted phenol" by the wording given as amendment D on page 8 of Applicant's proposed amendment pages,
4. the rejection of claims 23 for its definition of component (a) of the composition claimed be withdrawn, and

5. claims 1,9 and 34 be amended by replacing the definition of the group R⁶ in the group ONR⁶ as being comprised at least carbon which is singly or doubly bonded directly to N be replaced by the wording shown in alternative B on page 9 of Applicant's proposed amendment pages.

Under the provisions of Section 41 of the Patent Act, the Applicant has six months within which to appeal this decision to the Federal Court of Canada.



A. McDonough
Acting Commissioner of Patents

Dated at Hull, Quebec
this 16th day of February 1995