

Internal distribution code:

- (A) [] Publication in OJ
(B) [] To Chairmen and Members
(C) [X] To Chairmen

D E C I S I O N
of 22 August 2000

Case Number: T 0052/99 - 3.3.2

Application Number: 91117130.4

Publication Number: 0516878

IPC: A23B 4/027

Language of the proceedings: EN

Title of invention:

Process for treating animal carcasses to control bacterial growth

Patentee:

RHONE-POULENC INC.

Opponent:

01: Chemische Fabrik Budenheim R.A. Oetker
02: HYPRED

Headword:

Animal carcasses treatment/RHONE-POULENC

Relevant legal provisions:

EPC Art. 54, 56, 84, 123

Keyword:

"Main, first to fourth auxiliary requests - novelly - yes"
"Main, first to fourth auxiliary requests - inventive step:
no: incentive to try"
"Auxiliary requests five to seven - not admissible: late
filed"

Decisions cited:

-

Catchword:

-



Case Number: T 0052/99 - 3.3.2

D E C I S I O N
of the Technical Board of Appeal 3.3.2
of 22 August 2000

Appellant: RHONE-POULENC INC.
(Proprietor of the patent) 125 Black Horse Lane
Monmouth Junction
New Jersey 08852 (US)

Representative: Kolb, Helga, Dr. Dipl.-Chem.
Hoffmann Eitle
Patent- und Rechtsanwälte
Postfach 81 04 20
D-81904 München (DE)

Respondent: Chemische Fabrik Budenheim R.A. Oetker
(Opponent 01) Rheinstrasse 27
D-55257 Budenheim (DE)

Representative: Weber, Dieter, Dr.
Weber, Dieter, Dr.
Seiffert, Klaus, Dipl.-Phys.
Lieke, Winfried, Dr.
Gustav-Freytag-Strasse 25
D-65189 Wiesbaden (DE)

Respondent: HYPRED
(Opponent 02) 27 avenue Franklin Roosevelt
35400 Saint-Malo (FR)

Representative: Hubert, Philippe
Cabinet Beau de Loménie
158, rue de l'Université
75340 Paris Cédex 07 (FR)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 12 November 1998
revoking European patent No. 0 516 878 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: P. A. M. Lançon

Members: J. Riolo
R. E. Teschemacher

Summary of Facts and Submissions

- I. European patent No. 0 516 878 based on application No. 91 117 130.4 was granted on the basis of 19 claims.

Independent claim 1 as granted read as follows:

"1. A process for treating edible animal carcasses comprising treating the surface of the animal carcass with an aqueous treatment solution having a pH of 11.5 or greater, said solution containing trialkali metal orthophosphate present in an amount effective to remove, reduce or retard bacterial contamination and/or growth with the proviso that the orthophosphate solution does not contain alcohol."

- II. Notice of opposition was filed against the granted patent by opponent O1 and notice of intervention under Article 105 EPC by opponent O2.

The patent was opposed under Article 100(a) EPC for lack of novelty and lack of inventive step.

The following document was inter alia cited during the proceedings.

(3) US-A-4 592 892.

- III. The decision of the Opposition Division of 27 October 1998 posted on 12 November 1998 revoked the patent under Article 102(1) EPC.

The Opposition Division took the view that neither the set of claims of the main request nor the set of claims of the auxiliary requests 1 to 3 met the requirements

of Articles 52(1) and 56 EPC.

As regards novelty, the Opposition Division was of the opinion that the alleged novelty destroying document (3) US-A-4 592 892 did not disclose the use of a composition wherein ethanol was absent for treating the surface of animal carcasses.

Accordingly, the compliance of the main claim with Article 54 EPC was acknowledged by the Opposition Division.

The Opposition Division concluded, however, that document (3), representing the closest state of the art and disclosing a synergic composition of ethanol, an alkali carbonate and trialkali phosphate for treating the surface of animal carcasses, rendered obvious the process of the main and of the three auxiliary requests, which involved the use of a solution of orthophosphate containing no alcohol, for the following reasons:

The problem to be solved over document (3) was seen in the provision of a composition for treating animal carcasses which has a simpler constitution (smaller number of active agents) and which can be less effective than the composition of document (3).

As the active agent ethanol used in document (3) presented numerous well-known disadvantages such as organoleptic impairment of the food and handling difficulties, and as test example 1 of document (3) clearly demonstrated that the prior art composition possessed an antibacterial effect also in the absence of ethanol, it was considered obvious to dispense with

ethanol in order to solve the above problem.

- IV. The appellant (patentee) lodged an appeal against the said decision.

- V. Oral proceedings were held before the Board on 22 August 2000 during which a main request as well as subsidiary requests I to VII were submitted by the appellant in substitution for all previous requests. Auxiliary requests II and IV had been filed with the appellant's letter dated 19 March 1999, auxiliary requests V to VII had been filed on 21 July 2000 and the main request as well as auxiliary requests I and III were presented during the oral proceedings.

The main request corresponds to the version of the claims as granted, wherein the pH value has been defined as being "**above** 11,5", as disclosed in the application as originally filed and as agreed by the parties, instead of "11,5 or greater". (Emphasis added).

Independent claim 1 of the first auxiliary request corresponds to claim 1 of the main request, wherein the wording "to remove, reduce or retard" now reads "to remove or reduce". The dependent claims 2, 3 and 5 to 19 correspond to claims 2, 3 and 5 to 19 as granted. The pH range "12 to 13,5" given in claim 4 is based on the original disclosure on page 10, lines 3 to 7.

Independent claim 1 of the second auxiliary request corresponds to claim 1 of the first auxiliary request with the addition of the feature of its dependent claim 4 limiting the pH range from 12 to 13.5. The other claims are adapted to this main claim accordingly

and the subject-matter of claim 4 as granted has been deleted.

Independent claim 1 of the third auxiliary request corresponds to claim 1 of the main request with the restriction to a pH range from 12 to 13.5 and the addition of the feature of its dependent claim 2 specifying that the weight amount of orthophosphate is 4% or greater. The other claims are adapted to this main claim accordingly and the subject-matter of claims 2 and 4 as granted has been deleted.

Moreover, in claims 10 and 15 the wording "to remove, reduce or retard" now reads "to remove or reduce".

Independent claim 1 of the fourth auxiliary request corresponds to claim 1 of the second auxiliary request restricted to the treatment of poultry carcasses after evisceration, as disclosed in the application as filed on page 14 lines 19 to 25, and with the addition of the feature of its dependent claim 2 indicating that the weight amount of orthophosphate is 4% or greater. The other claims are adapted to this main claim accordingly and the subject-matter of claims 10 to 14 and 16 and 17 as granted has been deleted.

The major feature introduced from the description in the main claim of the auxiliary requests V to VII concerns a further process step consisting in recovering the trialkali metal orthophosphate by filtration.

VI. The submissions of the appellant, both in the written procedure and at the oral proceedings, can be summarised as follows:

As regards novelty, it shared the conclusions of the Opposition Division that document (3) did not disclose the use of a composition wherein ethanol was absent for treating the surface of animal carcasses.

For the assessment of inventive step, the appellant agreed with the Opposition Division that the composition for treating animal carcasses disclosed in document (3) represented the closest state of the art.

It however contended that, in the light of the comparative examples of documents G3 and G4 filed with its grounds of appeal, the problem to be solved by the patent in suit over document (3) could be seen in the provision of a simpler and more effective process for removing or reducing bacterial contamination of animal carcasses without causing organoleptic depreciation.

It concluded that the solution according to the contested patent, which consisted in dispensing with ethanol, was not obvious as this chemical was precisely presented as the mandatory feature of the disinfectant composition according to document (3).

It furthermore emphasised that the inventive step of the contested process was also confirmed by relevant "secondary indicia" such as long-felt needs and commercial success.

With respect to the subject-matter of auxiliary requests V to VII, it further contended that the introduction of the recovering step of the trialkali phosphate solution in claim 1 of these requests constituted a further significant and unexpected advantage of the claimed process.

VII. The arguments of the respondents (opponent O1 and O2) submitted both in the written procedure and at the oral proceedings can be summarised as follows:

They further maintained the novelty objection with respect to claim 1 of the main request and auxiliary request I over test example 1 of document (3). Although the disinfecting solution without ethanol of this *in vitro* experiment was not applied to edible animal carcasses, the respondents were of the opinion that the skilled person would also have contemplated its use for treating edible animal carcasses in the light of the disclosure of document (3) taken as a whole.

They also emphasised that the subject-matter of the patent in suit did not involve an inventive step.

In the view of the respondents, since the comparative examples of G3 and G4 lacked a comparison with ethanol alone as disinfecting agent, it could be concluded neither that an antibacterial improvement for the claimed process using a trialkali metal orthophosphate alone was achieved nor that no synergetic effect was achieved when ethanol was used in combination.

Accordingly, they defined the problem to be solved as being merely the provision of a simpler and safe process for bacterial decontamination of edible animal carcasses. They contended that the solution to this problem was obvious in the light of test example 1 of document (3), which demonstrated the antibacterial effect of a solution containing trialkali metal orthophosphate alone.

As regards auxiliary requests V to VII filed with the appellant's letter of 22 July 2000, they requested the

Board not to take them into account because they were filed late.

VIII. The appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the set of claims according to the main request as submitted during the oral proceedings. Alternatively, it was requested to maintain the patent on the basis of one of the following sets of claims:

auxiliary request I submitted during the oral proceedings,

auxiliary request II filed on 19 March 1999,

auxiliary request III submitted during the oral proceedings,

auxiliary request IV filed on 19 March 1999,

auxiliary requests V to VII filed on 21 July 2000.

The respondents requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.
2. *Admissibility of the requests*

All requests have been submitted during the appeal proceedings and most of them at a very late stage since auxiliary requests V to VII have been submitted only one month before the oral proceedings and the main

request and auxiliary requests I and III during the oral proceedings.

As regards the main request and auxiliary requests I to IV, the Board notes that the respondents could not be surprised by the restricted subject-matter of the amended main claim of these requests as the limitation results from the introduction of some of the features of the dependent claims.

There are moreover no objections on the basis of Articles 84 and 123(2) and (3) EPC to the set of claims of these requests I to IV. The subject-matter of the claims is adequately disclosed in the original description and does not extend the protection conferred when compared to the claims as granted.

These requests have been therefore admitted in the procedure.

Concerning the amendments of auxiliary requests V to VII, the respondents objected to their admission into the proceedings on the ground that the essential difference to the claims according to the previous requests was a feature taken from the description that never had been searched, examined or discussed in previous proceedings. Indeed, the additional step of filtering and recycling the treatment solution would entail considerations on patentability of the claimed subject-matter quite different from the discussions so far. Therefore, the submission of these amendments one month before the oral proceedings did not leave the respondents a proper opportunity for reaction. Furthermore, the amendments amount to the presentation of a fresh case which normally entails remittal of the

case to the first instance (cf Case Law of the Boards of Appeal of the EPO, 3d ed. 1998, VII.D.14.4).

Considering the fact that infringement proceedings have been pending since 1997 between the proprietor and opponent 02 and that the proprietor itself requested to accelerate these appeal proceedings which request prompted the Board to appoint oral proceedings early, the Board finds that there is no justification for the filing of fundamental amendments at this stage which are neither a reaction to observations made by the Board nor to immediately preceding submissions by the opponents. The admission of these amendments would have prevented the Board from coming to a decision which is the very purpose of oral proceedings before the Boards of Appeal (Article 11(3) of the Rules of Procedure of the Boards of Appeal). The Board concludes that neither continuing the proceedings in writing nor remittal of the case to the opposition division is appropriate under the circumstances of the case. Therefore, the amendments are considered as an abuse of the proceedings and not admitted (cf Case Law, *supra*, VII.D.14.2).

3. *Main request*

3.1 Novelty

- 3.1.1 Since document (3) has been cited as prejudicial to the novelty of the subject-matter of the patent in suit it is necessary to discuss this matter in detail.

Document (3) discloses in test example 1 an *in vitro* experiment, which demonstrates that an aqueous solution containing 1% trisodium phosphate is effective in

preventing bacterial growth of *Escherichia coli* in a brain heart infusion broth wherein this bacterium has been previously inoculated and cultivated at 37°C for 24 hours (table 1, line 10).

Since an aqueous solution containing 1% trisodium phosphate has a pH above 11.5, as already agreed by the patentee during the opposition proceedings (decision of the Opposition Division, page 4, lines 2 to 4), **a process for treating a brain heart infusion broth with an aqueous treatment solution having a pH of above 11.5, said solution containing trialkali metal orthophosphate present in an amount effective to remove, reduce or retard bacterial contamination and/or growth with the proviso that the orthophosphate solution does not contain alcohol**, is known from this document.

It therefore remains to be examined whether this document also discloses the use of the above mentioned disinfecting solution for treating the surface of animal carcasses.

The Board notes that document (3) does indeed state that chicken and fish are suitable foods which can be sterilised "**by the method of this invention**" (column 3, lines 48 to 63) (emphasis added).

The method of the invention according to document (3) is, however, defined in column 2, lines 46 to 49 as involving the use of an aqueous sterilising agent, which comprises **ethanol** and at least one alkaline substance as active ingredients.

Since the particular case of the sterilisation with an

aqueous solution containing 1% trisodium phosphate without alcohol of a brain heart infusion broth disclosed in test example 1 is not illustrative of the invention according to document (3), its generalisation with respect to other substrates, which are mentioned in said document **only** in relation with the method of the invention, is therefore not possible in the framework of novelty.

Accordingly, the use of an aqueous sterilising agent without alcohol for the treatment of animal carcasses has not been disclosed in document (3).

- 3.1.2 The Board cannot agree with the view of the respondents that the disclosure in document (3), column 4, lines 14 to 23, discloses that the sterilising effect of the preparations of test example 1 is examined in foods so that the combination of this passage with the part of the description disclosing chicken and fish as suitable foods implicitly anticipates the use of trisodium phosphate without alcohol for treating animal carcasses.

The passage referred to by the respondents reads "Using sterilizing preparations prepared on the basis of the results of Test Examples 1 to 3 (**Preparation Examples 1 to 10**), the sterilizing effects of these preparations in foods were examined (Examples 1 to 10)". It is therefore clear that the preparations which are meant to be tested in foods are, in fact, the **Preparation Examples 1 to 10**, which, contrary to test example 1, all contain ethanol according to the method of document (3). (Emphasis added).

Accordingly, there is no link in document (3) which

allows a combination between the disclosure of an *in vitro* aqueous sterilising solution containing trisodium phosphate without alcohol in test example 1 and the disclosure of the various foods which can be sterilised.

In conclusion, the subject-matter of the main request is novel under Article 54 EPC.

3.2 Inventive step

- 3.2.1 The patent provides for a process for treating edible animal carcasses without causing organoleptic depreciation thereof comprising treating the surface of the animal carcass with an aqueous sterilising treatment solution which is devoid of ethanol and which contains trialkali metal orthophosphate (page 2, lines 3 to 5, claim 1).

Although the treatment is disclosed as being effective in removing, reducing or retarding bacterial contamination and/or growth on the surface of animal carcasses, it is clear that a skilled person understands the disclosure of the contested patent in the context of the realities in the food processing industry, ie the level of effectiveness of the treatment must fulfil the safety requirements of the food and agriculture authorities of the industrialised countries. In other words, the level of efficiency of the process of the patent in suit is such that the meat can be safely consumed.

The Board agrees with the Opposition Division and the parties that document (3) represents the closest prior art.

3.2.2 Document (3) is an important document in the field of aqueous sterilising agents for food, presenting an overview of various prior art methods (column 1, line 44, to column 2, line 22). The skilled person would therefore read this disclosure in detail.

As for the patent in suit, the person skilled in the art would consider *a priori* that the process disclosed in document (3) also achieves a level of efficiency such that the meat can be safely consumed.

In that respect, the Board notes that the comparative example provided by the appellant in annex G3 (test C) indicates that this prior art process is more efficient than the process of the patent in suit, whereas its comparative example provided in annex G4 shows the contrary. Having regard to this discrepancy, the comparative tests cannot be taken into account.

Moreover, according to the description, the process of document (3) does not reduce the flavours and qualities of the food, ie the process does not cause organoleptic depreciation (column 2, lines 28 to 33, example 7, lines 66 and 67).

Example 1 of this document describes the efficient sterilising effect of a mixture comprising 7% ethanol and 0.5% of trisodium phosphate on broiler flesh contaminated with the food-poisoning bacterium *Salmonella typhimurium* (column 9, table 5).

Having regard to the description in column 3, lines 51 to 63, this example is illustrative for various foods including chicken and fish.

Accordingly, the problem to be solved as against document (3) can only be seen as the provision of a simpler process for treating edible animal carcasses.

3.2.3 This problem is solved by the subject-matter of claim 1 and, in the light of the working examples of the patent in suit, the Board is satisfied that the problem has been solved.

3.2.4 Thus, the question to be answered is whether the proposed solution, ie dispensing with ethanol, was obvious to the skilled person in the light of the prior art.

The Board notes that table 1 discloses that an aqueous solution containing **1%** trisodium phosphate without ethanol is efficient *in vitro* for sterilising a brain heart infusion broth contaminated with the food-poisoning bacterium *Escherichia coli* (column 5, line 10).

This efficiency even in the absence of ethanol is furthermore also confirmed on food in example 9 for Chinese noodles. In this example, a solution comprising **0.2%** trisodium phosphate without ethanol is disclosed as enabling a three-day storage instead of one and a half days (column 14, test 3 in tables 11 and 12).

On the other hand, table 1 of document (3) teaches that ethanol becomes significantly active only at a concentration of **40%** in the absence of trisodium phosphate (column 5, line 9).

This low efficiency of ethanol in terms of concentration is further demonstrated in the

comparative test of example 1, which shows in table 5 that the treatment of broiler flesh contaminated with the food-poisoning bacterium *Salmonella typhimurium* for five minutes in a solution containing **70%** ethanol is not sufficient to remove completely all the bacteria (column 9, table 5, value of 5.5×10).

Accordingly, the skilled person would have no doubt that the active ingredient in the mixture of example 1, which describes the efficient sterilising effect on broiler flesh contaminated with the food-poisoning bacterium *Salmonella typhimurium* of a mixture comprising **7%** ethanol and 0.5% of trisodium phosphate, is **primarily** the trisodium phosphate (column 9, table 5).

Moreover, the comparative tests carried out in example 1 also show that a dipping time of **one** minute in this mixture allows complete sterilisation whereas a concentration of bacteria of 5.5×10 is still present after a dipping time of **five** minutes in usual sterilizing agents such as sodium hypochlorite or a 70% ethanol solution (column 9, table 5).

Therefore, knowing on the one hand that a mixture comprising 7% ethanol and 0.5% of trisodium phosphate is far more efficient than the conventional sterilizing methods and on the other hand that trisodium phosphate is the active ingredient at low concentrations, the skilled person wishing to simplify the prior art method has a clear incentive to check whether the efficiency of trisodium phosphate remains sufficient in the absence of ethanol to allow the safe consumption of the meat.

3.2.5 The appellant argued that it was not obvious to dispense with ethanol in the light of document (3) because this document taught precisely that ethanol was an essential component of the sterilising agent described therein. It moreover maintained that the sterilising conditions disclosed in the *in vitro* example of document (3), with trisodium phosphate alone, were removed from the real conditions existing when a biofilm developed on a surface which was of an irregular shape, coated with fat and full of cracks and crevices such as the skin of poultry, so that they could not be predictive of an *in vivo* effect on such difficult substrates, in particular when different bacterial populations were present.

It also contended that the absence of ethanol would imply an increase in the amount of the alkaline substance to compensate for its effect and that the skilled person would not consider doing so, firstly, because he would then expect a higher level of saponification of the lipids contained in the food, which would impair the organoleptic properties and, secondly, for ecological reasons as phosphates are ideal nutrients for the growth of algae and a major cause of water eutrophication.

Finally, the appellant contested that the mere fact that the inventors of the process according to document (3) did not consider claiming the alternative of performing their process without alcohol clearly showed that the process according to the contested patent was not obvious.

3.2.6 The Board cannot share the opinion of the appellant.

It is indeed true that the invention described and claimed in document (3) concerns the discovery that a synergetic effect can be obtained by conjointly using ethanol, a trialkali phosphate and an alkali carbonate. As shown under 2.3.4, the disclosure of document (3) is however not limited to this teaching and the skilled person therefore remains free to decide whether he wants to dispense with this synergetic effect having regard to the advantages achieved by the removal of ethanol from the sterilising mixture.

It is also correct that biofilms of various bacterial populations developed on animal carcasses are much more difficult to sterilise than *in vitro* bacterial solutions and that none of the examples disclosed in document (3) concerns such extreme conditions. The only point at issue is not however whether document (3) discloses that a trialkali phosphate solution would be effective in such case (which would then be novelty destroying), but merely whether the skilled person would find a clear incentive to try it as shown under 2.3.4.

As regards the argument that the skilled person would not consider increasing the amount of the alkaline substance because of organoleptic alterations, the board notes that such problems are of importance mainly in lipid rich foods wherein fatty acid saponification may occur. Claim 1 is however not limited to such foods and document (3), which aims also at preserving the organoleptic properties of the food, also foresees the use of high amounts of trialkali phosphate (example 7, claim 31).

Moreover, as indicated under 2.3.4, ethanol is not a

very active ingredient *per se* at the concentration used in the examples of document (3), ie 1% to 16%. The skilled person would therefore not expect to have to increase drastically the amount of trialkali phosphate in order to compensate for the absence of synergism due to the lack of ethanol.

Also the negative consequence for the environment linked to the possible increase in the amount of trialkali phosphate would not therefore prevent the skilled person from trying to dispense with ethanol, in particular because this drawback would be clearly compensated by the advantages resulting from the simplification of the process, ie no need for storage and handling of a flammable chemical such as ethanol.

Moreover, the skilled person in both cases, also has the alternative of increasing the efficiency of the sterilizing solution by increasing the contact time with it instead of adding trialkali phosphate to it, as shown by the comparative examples in table 5 of example 1. The results in table 5 clearly indicate a much stronger efficiency after a dipping time of five minutes in the sterilising solution than after a dipping time of one minute.

Accordingly, these considerations would not prevent him from trying a promising solution.

Concerning the last argument, the Board notes that the appellant's allegation that the inventors of the process of document (3) obviously did not claim the alternative without ethanol, precisely because this alternative was not obvious to them, is a mere statement. Moreover, this kind of reasoning would

always lead to the recognition of an inventive step with respect to a single prior art document as soon as novelty over said document is given.

In view of the foregoing, the Board judges that the subject-matter of claim 1 of the set of claims according to the main request does not involve an inventive step as required by Article 56 EPC.

Under these circumstances, there is no need to consider the secondary indicia in determining inventive step since there remains no doubt as to the merit of the subject-matter of claim 1 of the main request.

4. First, second, third and fourth auxiliary requests

4.1 Novelty

The findings under 3.1.1 and 3.1.2 also hold good for these requests as the absence of ethanol is part of their main claim.

4.2 Inventive step

The findings under 3.2.1 to 3.2.6 also hold good for these requests for the following reasons:

The deletion of the term "retard" in claim 1 of the first auxiliary request does not affect the subject-matter of the claim which therefore remains identical to the subject-matter of claim 1 of the main request.

The introduction of a pH range of 12 to 13.5 in claim 1 of the second auxiliary request does not distinguish its subject-matter further from the disclosure in

document (3), as document (3) states that the pH of the sterilizing solution must be above 10 and the concrete examples carried out with solutions containing more than 1% trisodium phosphate must be within this range (see for instance examples 1, 7 and column 3, lines 13 and 14). The patentee did not contest these findings. No special effect has moreover been shown for this particular pH range.

Nor does the further restriction to a solution wherein the amount of trialkali orthophosphate is 4% or greater, introduced in the third auxiliary request, provide for the recognition of an inventive step, since document (3) states that the amount of trialkali orthophosphate can amount to 10% and discloses concrete examples within this range (see for instance example 1). The Board also notes that no particular effect has been indicated for this particular limit.

Even the further restriction to poultry carcasses after evisceration introduced in the fourth auxiliary request cannot provide for the acknowledgment of an inventive step. In fact, document (3) recites that its process can also be carried out on chickens (column 3, lines 51 to 61). Although the Board accepts the argument of the patentee that poultry carcasses after evisceration represent very difficult substrates to disinfect, the Board remains convinced that this consideration would not prevent the skilled person from trying a promising disinfecting solution.

Order

For these reasons it is decided that:

The appeal is dismissed

The Registrar:

The Chairman:

P. Martorana

P. Lançon