Europäisches Patentamt
Beschwerdekammern

European Patent Office
Boards of Appeal

Office europeen des brevets
Chambres de recours

Veröffentlichung im Amtsblatt Ja/Nein
Publication in the Official Journal Yes/No
Publication au Journal Officiel Oui/Non

*000117*

Aktenzeichen:
Case Number: T 84/82
N° du recours :

**ENTSCHEIDUNG / DECISION**
**vom / of / du** 18 March 1983

Anmelder:
Applicant: Macarthys Pharmaceuticals Limited
Demandeur :

Stichwort:
Headword: "Chloral Derivatives"
Référence :

**EPÜ / EPC / CBE** Art. 56, 96(2)
"Inventive step", "Examination Procedure"

**Leitsatz / Headnote / Sommaire**

If the applicant fails to make any real progress towards the refutation of the presumption of invalidity properly established in the first communication by the Examining Division, or no such progress appears to be possible even with amendments on the face of information available, it is within the discretion of the Examining Division according to Article 96 (2) EPC, to interpret the submissions on behalf of the applicant as complete and final, and to assume, in consequence, that no useful purpose would be served by the provision of further opportunities for filing observations, and to reject the application in the second communication, when this is justified by the above circumstances.

It is the declared aim of the European Patent Office to carry out the substantive examination thoroughly, efficiently and expeditiously, but this requires also a proper collaboration from the applicants, and good faith. The necessity for filing further observations prevails as long as progress towards grant can be envisaged in the light of submissions made.

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 84 / 82

# DECISION

of the Technical Board of Appeal 3.3.1

of 18 March 1983

**Appellant:** Macarthys Pharmaceuticals Limited
Frankland Moore House
185-7 High Road
Chadwell Heath,
Romford, Essex
RM6 6NR, England

**Representative:** Evans, David Charles
F.J. CLEVELAND & COMPANY
40-43,Chancery Lane
London WC2A 1JQ
England

**Decision under appeal:** Decision of Examining Division 010 of the European Patent Office dated 5 January 1982 refusing European patent application No 79 300 813.7 pursuant to Article 97(1) EPC

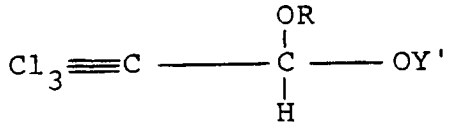
**Composition of the Board:**

Chairman: D. Cadman
Member: G. Szabo
Member: L. Gotti Porcinari

## SUMMARY OF FACTS AND SUBMISSIONS

I European patent application No. 79 300 813.7, filed on 11 May, 1979 and published on 23 January 1980 (publication No. 0 007 159) claiming the priority of the application in the United Kingdom of 11 July 1978, was refused by the decision of the Examining Division 010 of the European Patent Office dated 5 January 1982. The decision was concerned with 4 claims relating to pharmaceutical hypnotic compositions. The main claim had the following wording:

1. A pharmaceutical hypnotic composition comprising a chloral derivative having the general formula:



in which Y' is a polysaccharide consisting of a chain of anhydroglucose, substituted anhydroglucose or uronic acid units as substituent groups and in which R is selected from $-COCH_2OH$, $-/(CH_2)_nO/_x-H$ in which n is 2 to 5 and x is 1 to 7; $-CH_2OSO_2X'$ or $-CH_2COOX'$ in which X' is $NH_4$ or an alkaline earth metal cation, $(CH_2)_nH$ where n is 1 to 7, $-(CH_2)_n(OH)_xY$ where Y is -H or $-CH_3$ n is 1 to 7, x is 1 to 12 and the -OH groups are attached to the carbon atoms and wherein when $Y^1$ is a chain of unmodified anhydroglucose units, those units have the following configurations:

-D-glucopyranosyl units having a predominantly 1-4 linkage,

-D-glucopyranosyl units having a predominantly 1-4 linkage or

-D-glucopyranosyl units having a predominantly 1-4 linkage when $C_6$ is a carboxylic acid group, and a pharmaceutically acceptable excipient therefor.

II The stated ground for the refusal was that the invention lacked an inventive step, having regard to the disclosure in US-A-3 615 649. It was, accordingly, known to prepare chloral-substituted polysaccharides as feed additives for ruminants in order to mask the taste of chloral and to provide a release of chloral in the stomach of the animal. Chloral was a well-established hypnotic drug, and the problem was to make it available in a taste-masked and hydrolysable form in a pharmaceutical composition for humans. It was obvious to take any of the polysaccharides or their derivatives and substitute them with chloral to achieve such purposes.

III On 23 February 1982 the applicant lodged an appeal against the decision, paid the appeal fee, and submitted a Statement of Grounds on 27 April 1982. The appellants argued that the refusal had been in contravention of applicants' rights under Articles 97 and 96(2) EPC, and that the reasons given by the Examining Division had been technically incorrect. An amended text of the specification was submitted.

.../...

IV In reply to the objections to the then effective claims raised by the Board of Appeals, the appellants lodged further amendments and arguments, and finally abandoned all product claims. The method claims were restricted to specific polysaccharide derivatives during the course of oral proceedings on 18 March 1983. The wording of the presently effective claims is as follows:

1. A method for the production of a chloral derivative of a polysaccharide which comprises reacting chloral or chloral alcoholate with a compound selected from one or more of hydroxypropylmethyl cellulose, hydroxypropyl cellulose, hydroxyethylmethyl cellulose, hydroxyethyl-ethyl cellulose, hydroxyethyl cellulose, hydroxymethyl cellulose, hydroxyalkyl starch and alginic acid esters, in the presence of an inert non-aqueous solvent at an elevated temperature with stirring.

2. A method according to claim 1 wherein the polysaccharide is selected from hydroxyethyl cellulose, or hydroxypropyl methyl cellulose.

3. A method as claimed in either of claims 1 or 2 wherein the inert solvent is selected from carbon tetrachloride, chloroform and dimethylsulfoxide.

4. A method as claimed in any preceeding claim wherein the reaction product is purified by washing with a solvent.

5. A method as claimed in any preceeding claim wherein the reaction at elevated temperature is effected under reflux.

6. A method as claimed in any preceeding claim wherein the reaction product is further purified by fractional recrystallisation.

7. A method as claimed in any preceeding claim wherein the reaction product is admixed with a pharmaceutically acceptable excipient.

8. A method as claimed in claim 7 wherein the excipient is liquid and the derivative is present in the form of a suspension, or is a solid and the composition is in the form of tablets, capsules, granules or lozenges.

V The appellants argued that the claimed methods represent an effective way to provide a high degree of incorporation of chloral into the polysaccharide carrier molecule. The selected derivatives of polysaccharides, which would be used according to the invention for such purposes, carried one or more alkyl chains on the sugar units, each with a reactive terminal hydroxy group. In the absence of steric hindrances, or for any other reasons, the terminal hydroxy groups preferentially react with chloral (see page 9, lines 17-21 of the specification as originally filed) in an inert, non-aqueous solvent, and provide a higher degree of chloral substitution than otherwise expected. The same should apply to alginic acid esters. In view of the unexpected advantages of the technique with a particularly selected group of polysaccharide derivatives, the invention deserves protection as a highly efficient new method.

VI Regarding the submission that the refusal of grant was in contravention of applicant's right under the Convention, the appellants argued that Article 96(2) EPC re-

quired the Examining Division to invite the applicant to file his observations "as often as necesssary". Furthermore, the Guidelines for Examination in the European Patent Office (C-VI, 4.3) suggested that the Examiner must consider whether or not the objections could be resolved by further action, if the re-examination of the applicant's reply showed that a serious attempt had been made to meet the objections. Only in the absence of any real effort should be application be refused at the first re-examination. The appellants further argued that they had made a serious attempt to overcome the objections by filing three pages of argument and amended claims.

VII The appellants asked the Board that the appealed decision be set aside accordingly, and the patent be granted on the basis of the above version of claims.

## REASONS FOR THE DECISION

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.

2. The presently effective claims are further amended versions of those, which had been submitted on 13 February 1983 and were considered by the Board before the oral proceedings. They derive support from claims 8 to 11 as well as from other passages of the application, as originally filed (e.g. page 2, line 32 to page 3, line 34; page 9, lines 17 to 22; page 10, lines 3 to 18, and lines 24 to 29).

3. The substitution of sugars, dextran or high molecular weight polysaccharides with chloral is known in the state of the art. However, the direct reaction of chloral with dextran, starch or cellulose products appears to be less effective than alleged in the literature (GB-A-1 046 612 (1) or US-A-3 615 649 (2)). The applicants demonstrated this in a comparative example in the specification by using dextran according to the method of document (1), and as appellants submitted evidence suggesting that the actual incorporation of chloral in starch or cellulose according to document (2) had been substantially lower than expected. The reaction described in US-A-3 753 976 (3) uses an aqueous medium in order to obtain a high chloral content, but the product cannot be directly isolated from the reaction medium and requires a complete evaporation of the water and the unreacted chloral. Although all these techniques are stated to be applicable to various polysaccharide derivatives, there is no specific disclosure of the chloral substitution of the polysaccharide derivatives which are provided by the method of the application presently under appeal. These products can, therefore, taken to be novel and so must be the claimed method of their preparation.

4. Whilst it was a known desideratum to obtain a high chloral substitution of a polysaccharide or of a derivative thereof, such products seem to possess no unexpected property with regard to their use in veterinary practice or human medicine, as carriers of chloral for the release of this known agent in the stomach. It was, however, by no means clear at the priority date of the present application how this could be directly and efficiently achieved. Although it was known that cellulose

acetals reacted with chloral in the presence of chlorinated solvents, these products had, in conequence, only about 12% chlorine content, an equivalent of 18% chloral incorporation (Chem. Abstr. 1970, 72, 56858q and 1973, 78, 73823r). It is, however, also relevant that the same technique yielded only a 4.58% chloral hydrate content with cellulose in carbon tetrachloride (cf. page 13, (comparative) Example 4, present specification as originally filed). It is the Board's view that the improved results under similar conditions, i.e. in inert non-aqueous solvents, with derivatives having a terminal hydroxy group on a alkyl substituent or with alginic acid esters were not predictable on the basis of the disclosure in the documents cited in the search report. Since the claims are now restricted to such reactants, the methods defined therein must be regarded as involving an inventive step.

5. Regarding the plea that the applicants were, in contravention of the provisions of the Convention, unfairly treated by the Examining Division, the Board cannot agree to this allegation. The Examining Division made it clear in the first communication of 17 July 1981 that even those chloral substituted derivatives in the application, which were not specifically disclosed in the prior art, were obvious in view of their known and predictable properties with regard to the problem to be solved by the invention. The same applied to therapeutic compositions thereof. In the amendments submitted with the reply of 30 July 1981 on behalf of the applicants, the directly anticipated varieties were removed from the definition of the chloral derivatives without any explanation as to how this would meet the objection of obviousness. In essence, it was argued that the limita-

.../...

tion to therapeutic usage according to the provisions of Article 54(5) EPC should itself imply an inventive step for the compositions. The further argument that a cited statement from US-A-3 878 298 (4), i.e. the amount of (chloral substituted polysaccharide) feed additive should be kept below a pharmacodynamically effective quantity, is pointing away from the claimed invention, could not have carried weight with the Examining Division, since the disclosure implies that above such levels the effect would, as expected, be provided. No grant could have been seriously contemplated on the basis of the arguments and amendments.

6. Not only was the interpretation of the Convention by the reply submitted on behalf of the applicants fundamentally erroneous and the arguments unconvincing, but there was also no hint whatsoever as to submissions or further evidence, which would have been indicative of the possible inventive character of the method of preparation. Because the reply failed to overcome the objections and there was no reason to believe that a further amendment might resolve the problem, the Examination Division was justified in its conclusion that the deficiency was incurable and a rejection was proper. Since the relevant facts, which were in support of the patentability of certain method claims, only emerged later on in the appeal procedure, the applicants must bear the responsibility for the consequences of the delay. The Examining Division was in no position to envisage the possibility of a radical re-interpretation of the nature of the invention, without the assistance of the applicants.

7. If the applicant fails to make any real progress towards the refutation of the presumption of invalidity properly established in the first communication by the Examining Division, or no such progress appears to be possible even with amendments on the face of information available, it is within the discretion of the Examining Division according to Article 96(2) EPC, to interpret the submissions on behalf of the applicant as complete and final, and to assume, in consequence, that no useful purpose would be served by the provision of further opportunities for filing observations, and to reject the application in the second communication, when this is justified by the above circumstances. It is the declared aim of the European Patent Office to carry out the substantive examination thoroughly, efficiently and expeditiously, but this requires also a proper collaboration from the applicants, and good faith. The necessity for filing further observations prevails as long as progress towards grant can be envisaged in the light of submissions made.

8. Finally, as far as the decision of the Examining Division is concerned, the Board has noted that in the last paragraph on page 2 of the decision the Division has suggested, for the first time in the examination proceedings, that had it made an objection against the original claim to a therapeutic composition on the ground of lack of novelty, which in fact it did not, an attempt by the applicant to overcome the objection by invoking the special provision of Article 54(5) relating to the novelty of compositions having therapeutical application would not have succeeded, having regard to the art cited in the proceedings.

On this, and notwithstanding the outcome of the appeal, the Board points out that if an Examining Division speculates in a decision on the likely outcome of an objection which was never made, the applicant is denied the opportunity of rebutting here, if he can, a suggestion of invalidity of a claim which could be the subject of proceedings in other jurisdictions.

9. An application was made for the reimbursement of the appeal fee in accordance with Rule 67 EPC. For an appeal fee to be reimbursed pursuant to this Rule, there has to have been a substantial procedural violation. It is the opinion of the Board that the facts of the case would not justify such a measure.

For these reasons,

it is decided that:

1. The decision of Examining Division of the European Patent Office dated 5 January, 1982 is set aside.

2. The case is remitted to the first instance with the order to grant a European patent on the basis of the amended specification and claims submitted on 18 March 1983 at the oral proceedings.

The Registrar: The Chairman: