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Datasheet for the decision of 8 January 2024

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Title of invention:
TRACE ELEMENTS

Applicant:
Warburton Technology Limited

Headword:
Trace elements / WARBURTON

Relevant legal provisions:
EPC Art. 84

Keyword:
Claims - essential features - support in the description (yes) - clarity (yes)

Decisions cited:
T 0809/12, T 0242/92

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Case Number: T 0223/23 - 3.3.07

D E C I S I O N
of Technical Board of Appeal 3.3.07
of 8 January 2024

Appellant: (Applicant)	Warburton Technology Limited 36 Fitzwilliam Square Dublin 2 (IE)
Representative:	Carpmaels & Ransford LLP One Southampton Row London WC1B 5HA (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 10 August 2022 refusing European patent application No. 21193989.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	A. Usuelli
Members:	E. Duval
	Y. Podbielski

Summary of Facts and Submissions

I. The appeal was filed by the applicant (appellant) against the decision of the examining division to refuse the European patent application.

II. The examining division issued the decision to refuse the application using the standard form for decisions according to the state of the file, by reference to the communications dated 8 July 2022, 27 May 2022 and 1 December 2021.

The decision was based on a main request corresponding to the application as filed (as a divisional) on 31 August 2021, and on auxiliary request 1 filed on 21 March 2022.

Claim 1 of the main request related to:
"A trace element solution, which comprises at least the following metals:
(a) zinc in a concentration of at least 60mg/ml;
(b) manganese in a concentration of at least 10mg/ml;
(c) selenium in a concentration of at least 5mg/ml; and
(d) copper in a concentration of at least 15mg/ml;
and which comprises a concentration of the metals of at least 90 mg/ml."

Claim 1 of auxiliary request 1 additionally specified that "the solution further comprises EDTA."

III. The communications referred to in the decision cited the following document:

D1: WO 02/17933 A1

IV. In their latest referred communication dated 8 July 2022, the examining division provided the following reasoning regarding compliance with Article 84 EPC:

Firstly, the main request lacked support under Article 84 EPC. It was the process of manufacturing that provided the trace element in solution. The method therefore provided the technical characteristics of the product, which were not achieved by the prior art using a different method. Claim 1 thus lacked support by lacking the essential features defining the identity of the product.

Secondly, claim 1 defined the trace element solution by a result to be achieved, namely trace elements at high concentrations being able to remain in solution, which was in essence the problem underlying the application. The beneficial effect of reducing stress and injury to the animals was an obvious and direct consequence of providing a more concentrated solution. Claim 1 did not state the essential features necessary to achieve this result, i.e. high concentrations which remain in solution.

Auxiliary request 1 contravened Article 84 EPC essentially for the same reasons as for the main request.

V. With their grounds of appeal, the appellant upheld the main request and auxiliary request underlying the appealed decision, and submitted essentially the following arguments:

Claim 1 related to a composition containing the listed elements in solution in the specified high concentration. This allowed a single injection, thus reducing pain and distress for the animal compared to administering multiple injections, while providing an improved balance of zinc, copper, manganese and selenium. The inventors were the first to find a way to make the claimed solution. The claims were accordingly directed at the product, i.e. the solution, *per se*, and were clearly defined and supported by the description in accordance with Article 84 EPC.

Contrary to the examining division's view, claim 1 did not lack any essential features because the method of making the claimed product had not been shown to be an essential feature of that product. Furthermore, the claim was not defined exclusively by the result to be achieved, but simply recited the concentration of certain elements in a solution and did not contain any functional definitions that could represent an unallowable result to be achieved.

Accordingly, the criteria of Article 84 EPC were met.

VI. The appellant requests that the decision under appeal be set aside and that the case be remitted to the examining division for the grant of a patent on the basis of the main request filed on 31 August 2021, or alternatively on the basis of auxiliary request 1 filed on 21 March 2022.

Reasons for the Decision

1. The present decision is based on the appellant's main request corresponding to the application as filed (as a divisional) on 31 August 2021 (see 2. below).

The appealed decision acknowledged that the main request met the requirements of Article 76(1) EPC and of novelty (see the referred communication dated 1 December 2021, §1 and §6). The Board sees no reason to set aside these findings.

The appealed decision further addressed inventive step (see §7 of the same referred communication), and noted that an inventive step would be acknowledged after filing of the same comparative data as in the parent application, namely experimental reports 1 and 2, and provided the claims were reformulated to meet the requirements of Article 84 EPC. Experimental reports 1 and 2 have in the meantime been filed on 21 March 2022. The application was however refused for lack of compliance with Article 84 EPC.

The Board considers that the main request meets the requirements of inventive step as it stands (see 3.), and that no reformulation is necessary for the main request to meet the requirements of Article 84 EPC (see 4.).

2. The claimed invention; disclosure in the application

2.1 The application relates to a solution containing trace elements useful for administration to mineral deficient animals such as livestock. It seeks to address the

problem of low concentrations of the minerals in injectable solutions, leading to the injection of large quantities, which causes tissue damage and abscesses at the site of injection. The invention aims at providing solutions with suitable composition with high enough concentrations and sufficient ratios and sufficient concentrations of the various metals (see pages 1 and 3 of the description).

Claim 1 of the main request relates to a trace element solution, which comprises at least the following metals:
(a) zinc in a concentration of at least 60 mg/ml;
(b) manganese in a concentration of at least 10 mg/ml;
(c) selenium in a concentration of at least 5 mg/ml; and
(d) copper in a concentration of at least 15 mg/ml;
and which comprises a concentration of the metals of at least 90 mg/ml.

In agreement with the appellant and the examining division, the Board interprets claim 1 as requiring that the recited trace elements (namely zinc, manganese, selenium and copper) are present in solution, i.e. dissolved, in the stated concentrations.

2.2 It is not under debate that the application sufficiently discloses a method for preparing the claimed composition. The description describes a general method (see page 3) consisting essentially of the steps of:

(a) heating water;
(b) adding manganese carbonate to the water;
(c) adding zinc oxide to the water; and
(d) adding copper carbonate to the water to form a liquid mixture;

(e) adding a dry mixture comprising EDTA and/or EDDS and NaOH to the liquid mixture; and
(f) adding Na_2SeO_3 to form the trace element solution.

This method is exemplified on pages 7-8 and is shown to lead to the claimed trace element solution. This is further supported by the experimental report 1 filed on 21 March 2022.

3. Inventive step

3.1 The closest prior art D1 (see example 6) shows a trace element solution comprising zinc (20 mg/ml), manganese (20 mg/ml), copper (10 mg/ml), chromium (5 mg/ml) and selenium (5 mg/ml), thus having a total concentration of metals of 60 mg/ml. The trace element solution of claim 1 differs from this known composition at least by its higher metals concentration, namely 90 mg/ml or more. This higher concentration addresses the problem of tissue damage and abscesses associated with the injection of large quantities (see page 1 of the description).

3.2 The desirability of a higher metal concentration and the ensuing advantages upon injection are known from D1 (see page 1) and are as such obvious. However, it is apparent that, at the date of filing of the application, there was no obvious way to produce a solution as claimed with a metal concentration of at least 90 mg/ml.

3.2.1 As noted by the examining division (see communication dated 8 July 2022, paragraph bridging pages 2 and 3), the prior art does not disclose a process amenable to the production of the claimed high concentrations. The experimental report 2 filed on 21 March 2022 shows that

carrying out the process of D1 with increased trace element concentrations so as to achieve an overall metals concentration of 90 mg/ml does not lead to a clear solution but to a composition that contains a significant amount of precipitate, thus indicating that the trace elements are not in solution and that the concentration of 90 mg/ml cannot be reached. In contrast, the process disclosed in the present application allows the preparation of solution with the claimed high metals concentration.

3.2.2 Both the process of D1 (see examples 1-6) and the process disclosed in the present application use the same ingredients (namely water, zinc oxide, manganese carbonate, copper carbonate, EDTA and Na_2SeO_3). However, their order of addition differs: the prior art teaches to first prepare the EDTA complexes of each trace elements, and then to combine them together to form the solution. In contrast, the process of the present application involves first mixing the trace elements together and then adding the complexing agent. As noted in the appealed decision, the increased concentration of trace elements in solution is obtained in particular by a specific order of adding EDTA. The prior art does not allow the skilled person to anticipate that this particular order of addition would lead to the claimed higher concentrations, nor does it appear to suggest any obvious way leading to such high concentrations.

3.2.3 According to established case law, a product which can be envisaged as such with all characteristics determining its identity including its properties in use, i.e. an otherwise obvious entity, might nevertheless become non-obvious and claimable as such, if there is no known way or applicable (analogous)

method in the art for making it and the claimed methods for its preparation are therefore the first to achieve this and do so in an inventive manner (see the Case Law of the Boards of Appeal 10th edition, 2022 I.D.9.20). Considering the particular circumstances of the case at hand and the absence of prior art leading in an obvious manner to metals concentrations of at least 90 mg/ml, the Board considers that this conclusion is applicable to the trace elements solutions of claim 1 which are thus claimable as such, as far as the requirements of inventive step are concerned. The Board thus concurs with the examining division that the subject-matter of the main request involves an inventive step.

4. Article 84 EPC

The examining division however found that the criteria of Article 84 EPC were not met,
- firstly because it was the process of manufacturing that provided the increased concentrations of trace elements in solution, such that claim 1 lacked support by lacking the essential features defining the identity of the product, and
- secondly, because claim 1 defined the trace element solution by a result to be achieved, namely trace elements at high concentrations being able to remain in solution, which was in essence the problem underlying the application. However, claim 1 did not state the essential features necessary to achieve this result.

For the following reasons, the Board considers that claim 1 of the main request neither lacks essential features nor lacks support under Article 84 EPC.

4.1 Essential features

4.1.1 In the case law of the Boards of Appeal, the requirement for all essential features to be specified in the claim has been inferred from the the criteria of clarity and of support by the description set out in Article 84 EPC.

Thus, a claim which does not include a feature which is described in the application (on the proper interpretation of the description) as an essential feature of the invention, and which is therefore inconsistent with the description, is not supported by the description for the purpose of Article 84 EPC (see the Case Law of the Boards of Appeal, 10th edition, 2022, II.A.5.1).

Furthermore, Article 84 EPC has to be interpreted as meaning not only that a claim must be comprehensible from a technical point of view, but also that it must define the object of the invention clearly, that is to say it must indicate all the essential features thereof. In this context, all features which are necessary for solving the technical problem with which the application is concerned have to be regarded as essential features (Case Law of the Boards of Appeal, 10th edition, 2022, II.A.3.2).

4.1.2 Here, claim 1 is directed at a product as such, namely a trace element solution. It clearly defines the solution by its technical features, i.e. the types and amounts of the trace elements (zinc, manganese, selenium and copper) dissolved therein. Beyond these structural technical features of claim 1, the description does not, at any point, describe any additional feature as essential to the product or necessary for solving the problem of that these high concentrations seek to address, i.e. avoiding the

injection of large quantities causing tissue damage and abscesses, and providing sufficient ratios and sufficient concentrations of the various metals.

4.1.3 The examining division argued that it was the process of manufacturing, and in particular the specific order of adding EDTA, that provided the trace element in solution.

As a preliminary remark, claim 1 relates to a product *per se*. Additionally defining this product in terms of the process used for its preparation, i.e. by a product-by-process feature, could only further characterise the composition insofar as this process gives rise to a distinct and identifiable characteristic of the product. In this sense, the steps of the process cannot themselves be regarded as essential features of the product: at most the technical features imparted by this process to the resulting product could represent such essential features.

The Board understands the examining division's conclusions to be motivated by the finding that the preparation of a trace elements solution with the claimed high concentration could not be achieved in the prior art and was part of the problem to be solved mentioned in the application, and that the process disclosed in the application was the first process to allow such a preparation (as explained above, see 3.2). However this situation does not justify that each and every feature imparted by the process shown in the example to the resulting composition be seen as an essential feature. As explained in T 242/92, the mere fact that only one way of carrying out the invention is indicated does not in itself offer grounds for

considering that the application is not entitled to broader claims (see point 3 of the reasons). A lack of support would only arise if there are well-founded reasons for believing that the skilled person would be unable to extend the particular teaching of the description to the whole of the field claimed by using routine methods. The Board sees no such reasons in the present case. In particular, the absence of reference in claim 1 to the EDTA used in the example does not lead to a lack of support, considering that the description mentions EDDS as an alternative, and considering the absence of an indication that the skilled person could not use other chelants. The examining division did not clearly identify which other features of the composition would be imparted by the process of the description but would be both missing from claim 1 and causing a lack of support. In as far as the process imparts a high trace element concentration to the resulting solution, this feature is already present in claim 1.

4.1.4 Definition in terms of a result to be achieved

In a second line of reasoning, the examining division relied on T 809/12. According to this decision (see point 2.8 of the reasons), if an independent claim contains a feature defined by a result to be achieved which essentially corresponds to the problem underlying the application, to comply with Article 84 EPC the remaining features of the claim must comprise all essential features necessary for achieving that result.

In the case underlying T 809/12, claim 1 pertained to a claimed coated article defined in terms of the result to be achieved (by a DeltaE* value which corresponded essentially to the effect of improved matchability

aimed at by the invention), but lacked a feature regarding the structure of the claimed article (namely feature (ii) about the thickness of some specified dielectric layer(s)) which the Board determined to be essential for obtaining the claimed result. The Board concluded that the requirements of Article 84 EPC were not met (see points 2.1-2.10 of the reasons).

This earlier decision is not applicable to the case at hand. The examining division did not determine which feature *of the trace element solution* would be missing from claim 1 and would be essential for obtaining the high concentration recited in claim 1. For the reasons given above (see 4.1.3), even if, according to the description, the invention aims at providing a highly concentrated trace element solution, and provides for the first time a process allowing the preparation of such a highly concentrated solution, this does not mean that the claims should be limited to that particular process or to a solution defined in terms of that particular process for them to comply with Article 84 EPC.

Accordingly, the main request meets the requirements of Article 84 EPC.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The case is remitted to the examining division with the order to grant a patent on the basis of the main request filed on 31 August 2021 and a description to be adapted thereto.

The Registrar: The Chairman:

D. Hampe A. Usuelli

Decision electronically authenticated