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**Datasheet for the decision
of 20 February 2018**

Case Number: T 1318/14 - 3.3.03

Application Number: 06765408.7

Publication Number: 1858930

IPC: C08B37/00, C07H1/00, C07F15/02,
A61K31/715, A61K31/70

Language of the proceedings: EN

Title of invention:

PROCESS FOR THE PREPARATION OF TRIVALENT IRON COMPLEXES WITH
MONO-, DI- AND POLYSACCHARIDE SUGARS

Patent Proprietor:

Biofer S.p.A.

Opponent:

Vifor(International)AG

Relevant legal provisions:

RPBA Art. 12(4)
EPC Art. 84, 123(2), 123(3), 111(1)

Keyword:

Submission of main request represented a justified reaction to the course of events before the opposition division

Lack of clarity (no)

Amendments - extension beyond the content of the application as filed (no) - broadening of claim (no)

Appeal decision - remittal to the department of first instance (yes)

Decisions cited:

G 0002/10, G 0003/14



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Case Number: T 1318/14 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 20 February 2018

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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 11 April 2014
revoking European patent No. 1858930 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman D. Semino
Members: F. Rousseau
R. Cramer

Summary of Facts and Submissions

I. The appeal by the patent proprietor (appellant) lies against the decision of the opposition division posted on 11 April 2014 revoking European patent No. 1 858 930 whose claim 1 in its granted version read as follows:

"1. A process for the preparation of an activated sugar comprising the step of reacting a sugar having an aldehyde end group with bromine in a solution at a pH between 7 and 9, wherein

i) said sugar is selected from the group consisting of glucose, saccharose, maltose, lactose, maltodextrins, dextrins and dextrans and wherein

ii) said bromine is produced *in situ* through the addition of a hypochlorite and an alkaline or earth alkaline metal bromide to said solution, said hypochlorite being added in stoichiometric quantities with respect to the aldehyde end groups, wherein said hypochlorite is added instant by instant, such that an excess of hypochlorite in solution is never present."

II. An opposition had been filed requesting revocation of the patent in its entirety on the grounds that its subject-matter lacked novelty and an inventive step (Article 100(a) EPC), was insufficiently disclosed (Article 100(b) EPC) and extended beyond the content of the application as originally filed (Article 100(c) EPC)

III. The impugned decision was based on a main request and first to sixth auxiliary requests, all submitted with letter of 10 January 2014, as well as seventh to ninth auxiliary requests submitted during the oral

proceedings on 12 March 2014. The opposition division found that the features "*through the addition of a hypochlorite and an alkaline or earth alkaline metal bromide to said solution*" and "*said hypochlorite is added instant by instant*" both present in all requests resulted in an infringement of Article 123(2) EPC.

IV. With the statement setting out the grounds of appeal submitted with a letter of 21 August 2014 the appellant submitted *inter alia* six sets of claims as main and first to fifth auxiliary requests. The claims of the main request, the sole relevant for the present decision, read as follows:

"1. Process for the preparation of an activated sugar iron complex comprising the step of reacting a sugar having an aldehyde end group with bromine in a solution at a pH between 7,0 and 9,0, wherein
i) said sugar is selected from the group consisting of glucose, maltose, lactose, maltodextrins, dextrans and dextrins and wherein
ii) said bromine is produced *in situ* through the addition of a hypochlorite of an alkaline or earth alkaline metal to said solution comprising said sugar to be activated and a bromide of an alkaline or earth alkaline metal, said hypochlorite being added in stoichiometric quantities with respect to the aldehyde end groups, wherein said hypochlorite is added instant by instant, such that an excess of hypochlorite in solution is never present,
where, in a following step, a water soluble Fe(III) salt, which salt is iron trichloride hexahydrate, is added to the solution containing the activated sugar in a weight ratio of iron to sugar from 1:0.5 to 1:4 to react with said activated sugar to form a Fe(III)-activated sugar complex,

wherein after the addition of the iron salt to the solution containing the activated sugar, the pH of the solution is controlled at a value from 2.3 to 2.7 by adding a sodium hydrogencarbonate solution containing 15% w/v sodium hydrogencarbonate in a time between 1 and 6 hours, wherein the pH of the solution is subsequently brought to a value between 8 and 12, through the addition of a sodium hydroxide solution, to give a solution containing the Fe(III)-activated sugar complex, wherein the Fe(III)-activated sugar complex is subjected to purification by ultrafiltration, with a membrane having a cut-off between 3000 and 5000 Daltons for the mono- and disaccharide sugars, such as glucose, maltose and lactose, and a cut-off between 400 and 50.000 Daltons for the polysaccharide sugars, such as dextrans and dextran, wherein said complex is stabilized by heating of the solution containing the same at a temperature between 75° C and 95° C for a period between 1 and 4 hours at a pH between 9.0 and 12.0.

2. Fe(III) and activated sugar complex obtainable according to a preparation process according to claim 1.
3. Use of a Fe(III) complex according to claim 2 for the preparation of a medicine for the treatment of iron deficiency conditions.
4. Use according to claim 3, wherein the treatment is directed to pathologies such as: functional iron deficiency in patients suffering from a renal chronic failure, bad absorption of the iron due to intestinal diseases, chronic blood loss also together with erythropoietin and constitutional anemia."

- V. As far as relevant to the present decision, the appellant's arguments can be summarised as follows:

Admissibility of the main request

- (a) The main request had been filed in reaction to newly raised objections. In the light thereof it had been realised that claim 2 of the application in the English language which was a translation from the original application filed in the Italian language at the International Bureau contained a translation error, for which correction was now requested.

Clarity

- (b) The objection that claim 1 lacked clarity was based on semantic and not on an objective technical analysis of the text of the patent in suit. The view that claim 1 could also be understood to define that the claimed process comprised the step of adding bromide of an alkaline or earth alkaline metal to the solution was not supported by the remaining disclosure of the contested patent, in particular the examples and certainly not by claim 8 which did not state that the solution would consist of a sugar solution.

Extension of the scope of protection

- (c) The objection that claim 1 infringed Article 123(3) EPC was also based on an incorrect interpretation of the claim language and should therefore be dismissed.

Added matter

- (d) The feature "*through the addition of a hypochlorite and an alkaline or earth alkaline metal bromide to said solution*" which the opposition division found to infringe Article 123(2) EPC was based on an erroneous translation of claim 2 from Italian (the original language) into English. The addition of an "alkaline or earth alkaline metal", i.e. the elementary metal, to an aqueous activation solution had not only no counter part in the specification, but in addition did not make technical sense. Said feature in view of the corrected translation of claim 2 pursuant to Article 14(2) EPC should read instead "*through the addition of a hypochlorite of an alkaline or earth alkaline metal to said solution*". Taking into account the correction of the translation error, the first objection addressed by the opposition division was overcome.
- (e) The second feature found in the contested decision to extend beyond the content of the application as filed, namely "*said hypochlorite is added instant by instant*" did not infringe the requirements of Article 123(2) EPC. Although no literal disclosure could be found in the original documents for this expression, that feature was clearly implied by the circumstances under which the reactions described on page 18 took place. The oxidation of bromide took place to form bromine which in turn oxidized the sugar. It was apparent that this process provided the advantage to be carried out like a titration, meaning that each addition of hypochlorite would take place only once the bromine (which also served as indicator due its brown colour) had disappeared. It was also taught in the

original disclosure that stoichiometric quantities of hypochlorite with respect to the aldehyde end groups should be added slowly, such that all the added hypochlorite only served for the bromide oxidation, avoiding an excess of hypochlorite in solution. In addition, the wording of claim 1 did not allow as alleged by the respondent to add the whole hypochlorite in one go. Hence, the instant by instant production of bromine described on page 18, lines 8-10 was necessarily commanded by an instant by instant addition of hypochlorite.

- (f) All compounds involved in the reactions mentioned on page 18 were in the same vessel, which meant that the pH at which the sugar reacted with bromine was the same used for the bromine formation.

- (g) Original claim 15 was the sole passage of the application as filed defining a weight ratio between the sugar and iron (III) to be based on the amount of iron (III) salt. All other passages of the original disclosure, including the examples, consistently defined that ratio to be based on the amount of iron and not the salt thereof. The omission of the reference to the salt when defining that ratio was based on those passages and represented the correction of an obvious error under Rule 88 EPC.

VI. As far as relevant to the present decision, the arguments of the respondent (opponent) can be summarised as follows:

Admissibility of the main request

(a) The main requests could have been presented in the first instance proceedings and there was no apparent reason why the amendments proposed therewith had not been made earlier. Various claim requests had been already submitted before the opposition division and the reasons which led to the finding in the contested decision that the amended claims constituted extended subject-matter had been already presented to the patent proprietor prior to the oral proceedings before the opposition division. Moreover, there was no reason why the correction in claim 1 due to an alleged translation error had been proposed only in appeal, i.e. more than 8 years after the filing date of the application. This raised completely new legal questions. Thus the admission of the new request into the proceedings would appear to be contrary to a reliable and fair conduct of proceedings. Accordingly, the main request should be held inadmissible pursuant to Article 12(4) RPBA.

Clarity

(b) Claim 1 could be understood to define either that a hypochlorite of an alkaline or earth alkaline metal was added to a solution comprising both the sugar to be activated and a bromide of an alkaline or earth alkaline metal, or that a hypochlorite of an alkaline or earth alkaline metal was added to a solution comprising the sugar to be activated and

that a bromide of an alkaline or earth alkaline metal was also added to that solution. Accordingly, the amendments introduced into claim 1 resulted in a lack of clarity of that claim.

Extension of the scope of protection

- (c) The step of the addition of an alkaline or earth alkaline metal bromide to "said solution", defined in claim 1 as granted, was missing thereby extending the scope of protection. Amended claim 1 did not define anymore that an alkaline or earth alkaline metal bromide was added to a solution comprising the sugar to be activated. For example, the solution comprising said sugar to be activated and a bromide of an alkaline or earth alkaline metal could be now prepared e.g. by adding sugar to a solution of the bromide. Such a possibility was however not covered by claim 1 as granted, where the bromide had to be added to a solution. Moreover, it did not matter whether "said solution" contained the sugar or not, because the step of adding the bromide to any "solution" was missing in claim 1.

Added matter

- (d) Comparing claim 1 of the main request with original claims 1 and 2, even if taking the original Italian version of claim 2 into account, it was evident that their wording was different and that the wording of claim 1 of the main request independently of the further limitations of the pH range and sugars, could not be derived directly and unambiguously from the wording of original claims 1 and 2. The new main request required that a sugar

was reacted with bromine in a solution at a certain pH (between 7,0 and 9,0), while original claim 1 required that bromine was produced in situ at a certain pH range. This was technically different, since during the formation of bromine, that is during the addition of the hypochlorite, the pH changed. Also the corresponding parts in the original documents clearly addressed the pH for the step of the bromine formation (page 17, 2nd paragraph; page 24, line 23 to page 25, line 12).

- (e) In claim 1 the omission of the feature "the bromine quantity needed for the sugar activation is produced instant-by-instant" and the presence of the feature "wherein said hypochlorite is added instant by instant" had no basis in the original documents. The wording "instant by instant" was only disclosed in the original documents at page 18, lines 8-15, but in relation to the production of the bromine quantity needed for the sugar activation. However, that instant by instant production of bromine was different from the instant by instant addition of the hypochlorite. First of all the cited passage did not say anything about the way hypochlorite was added, so that this could happen for example in a single go or in one or more separate portions. Moreover, the way hypochlorite was added did not necessarily correspond to the way bromine was formed, because in spite of the addition of the whole hypochlorite, the formation of bromine could happen gradually due to the finite rate of that reaction. The expressions "that an excess of hypochlorite in solution is never present" and the term "slowly" used to define the addition of hypochlorite were unclear, so that those expressions could not

provide a basis for the disputed feature. It could not be taken from the original disclosure that the hypochlorite was gradually added like for a titration. The addition over two hours like in the examples allowed the addition of a large amount within two minutes and a minor amount over the remaining time. The original documents did not disclose that hypochlorite addition should take place when the bromine produced had been consumed as a result of the reaction with the aldehyde groups of the sugar. Even if, as alleged by the patent proprietor, the formation of the bromine according to reaction 1) $\text{NaClO} + 2\text{NaBr} + \text{H}_2\text{O} \rightarrow \text{Br}_2 + \text{NaCl} + 2\text{NaOH}$ were faster than the reaction of the bromine with the aldehyde groups of the sugar according to reaction 2) $\text{Br}_2 + \text{R-CHO} + 3\text{NaOH} \rightarrow 2\text{NaBr} + \text{R-COONa} + 2\text{H}_2\text{O}$, this would still allow to add the entire hypochlorite all at the same time. Several measures would be available to make possible an instant by instant production of bromine by a non-instant addition of hypochlorite for example by using a controlled release form of hypochlorite such as an encapsulated hypochlorite. The bromide was added in a catalytic amount and it was necessary to wait that bromide sodium would form again as a result of reaction 2) before reaction 1) using bromide could take place. Accordingly, it could not be agreed that an instant by instant production of bromine by addition of the hypochlorite to the solution of sugar comprising the bromide could only result from an instant by instant addition of hypochlorite, and conversely.

- (f) Furthermore, contrary to the disclosure of original claim 15 the weight ratio from 1:0.5 to 1:4 defined in claim 1 of the main request was not specified to

be computed on the basis of the amount of iron (III) salt, but only on the amount of iron. It was not recognizable from claim 15 as filed that an error had occurred. Hence that amendment was not based on the application as filed.

VII. The appellant requested that the decision under appeal be set aside and the case be remitted to the department of first instance for further prosecution on the basis of the main request or one of the first to fifth auxiliary requests, all filed with the statement of grounds of appeal.

VIII. The respondent requested that the appeal be dismissed. It further requested that the main request and the auxiliary requests not be admitted to the proceedings.

Reasons for the Decision

Main request

Admissibility

1. Article 12(4) RPBA requires the Board to take into account everything presented by the parties under Article 12(1) RPBA if and to the extent that it relates to the case under appeal and meets the requirements in Article 12(2) RPBA. It is not disputed that the main request submitted with the statement setting out the grounds of appeal, as well as the submissions in its respect, relate to the case under appeal and meet the requirements in Article 12(2) RPBA. In particular, the submissions of the appellant, i.e. the main request and the explanation as to why the features it contains

would not lead to added matter, constitute an attempt to overcome the objections that led to the revocation of the patent in suit.

1.1 On appeal the appellant amended claim 1 by replacing the expression "*through the addition of a hypochlorite and an alkaline or earth alkaline metal bromide to said solution*" by "*through the addition of a hypochlorite ~~of~~ and an alkaline or earth alkaline metal to said solution*" (changes highlighted by the Board).

Claim 2 as granted defines by reference to claim 1 that the hypochlorite added is "*an alkaline or alkaline earth hypochlorite*". Moreover, it appears that the addition of an alkaline or alkaline earth metal hypochlorite is the step not only described in the granted patent *inter alia* in paragraph [0046], line 47, paragraph [0058], line 58 and in examples 1 and 3 to 7, but also in the corresponding parts of the application as filed. Accordingly, the definition in claim 1 of the main request that a hypochlorite of an alkaline or earth alkaline metal is used for producing bromine does not require at the appeal stage a new analysis of the invention as generally described in the application as filed and the patent as granted. Consequently, the presence of the feature that the hypochlorite is a hypochlorite of an alkaline or earth alkaline metal in claim 1 cannot justify itself that the present main request should not be admitted.

1.2 Moreover, the opposition division in its preliminary opinion as set out in the communication of 28 October 2013 (see whole section 1.3, pages 8 and 9 and point III, page 15) had indicated that the claims then on file, which contained the features found in the contested decision to extend beyond the content of the application as filed, in fact complied with the

requirements of Article 123(2) EPC. The reasons as to why the opposition division changed its view with respect to the allowability under Article 123(2) EPC of the feature "*through the addition of a hypochlorite and an alkaline or earth alkaline metal bromide to said solution*" (see point 2.2.2 of the reasons for the decision) remains in the absence of any indication on file for the Board a matter of conjecture. The board is in particular not in a position to assess on the basis of the reasoning given in the decision under appeal why exactly that feature was not considered to be allowable under Article 123(2) EPC, as in particular a detailed analysis of the wording of the feature in question and of that of the passages of the application as filed referred to in point 2.2.2 of the reasons for the decision, as well of their technical meaning in the light of the whole teaching of the application as filed, is not provided.

1.3 It appears also in view of section 4.1 of the statement setting out the grounds of appeal that the features which have been incorporated on appeal into claim 1 of the main request are measures which are mainly described in dependent claims and are recommended in the application as filed for putting into practice the reaction scheme described in the application as filed as the essence of the present invention. Accordingly, the presence of those additional features with a view to overcome the objection that claim 1 extended beyond the content of the application as filed also cannot justify that the main request should not be admitted.

1.4 Consequently, the new main request and its accompanying submissions of the appellant are considered to represent a justified reaction to the contested decision and to the course of events having taken place

before the opposition division. It is therefore irrelevant in the circumstances of the present case whether the appellant had already submitted several sets of auxiliary requests before the opposition division. Consequently, the Board does not see any reason to exercise its discretionary power conferred to it by Article 12(4) RPBA to hold that main request and the corresponding supporting arguments inadmissible with the consequence that the main request is in the proceedings.

Meaning of claim 1 and clarity of an amendment (Article 84 EPC)

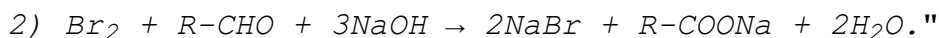
2. Having regard to the structure of the wording defining feature (ii), in which the terms "*and a bromide of an alkaline or earth alkaline metal*" immediately follows but not precedes the wording "*to said solution comprising said sugar to be activated*" and the absence of any indication that the bromide of an alkaline or earth alkaline metal is added to said solution comprising said sugar to be activated, the Board has no reason to consider that claim 1 could also be read to define that a hypochlorite of an alkaline or earth alkaline metal is added to a solution comprising the sugar to be activated and that a bromide of an alkaline or earth alkaline metal is also added to that solution as alleged by the respondent. According to a normal reading of claim 1 that claim can only be understood to define the addition of a hypochlorite of an alkaline or earth alkaline metal to a solution which comprises not only the sugar to be activated, but also a bromide of an alkaline or earth alkaline metal. Consequently, the objection of the respondent that claim 1 would lack clarity in view of the ambiguity as to whether claim 1 defined one or two addition steps does not convince.

Article 123(2) EPC

3. In accordance with the established Case Law of the Boards of Appeal of the EPO, the relevant question to be decided in assessing whether the subject-matter of an amended claim extends beyond the content of the application as filed, is whether after the amendment the skilled person is presented with new technical information (see G 2/10 (OJ EPO 2012, 376), point 4.5.1 of the Reasons and Case Law of the Boards of Appeal of the EPO, 8th edition 2016, II.E.1). In other words, the above mentioned amendment is only allowable if the skilled person would derive the resulting claimed subject-matter directly and unambiguously, using common general knowledge from the application as filed.

4. As described in general terms starting in the last paragraph of page 15 of the application as filed, the present invention concerns a process for the preparation of trivalent iron complexes with sugars. The process includes activation of a sugar (claim 1 and sentence bridging pages 15 and 16) which is performed by oxidising the aldehyde end groups of the sugar with bromine, which bromine is produced *in situ* (claim 1). The reactions involved are described starting at line 8 of page 18 of the application as filed which defines the reaction scheme for the preparation of bromine when the preferred alkaline or alkaline earth hypochlorite and the preferred bromide (see paragraph bridging pages 20 and 21) are used:

"The bromine quantity needed for the sugar activation is produced instant by instant from the addition of the alkaline or alkaline earth hypochlorite, which is used in a stoichiometric quantity with respect to the number of end aldehydes according to the reactions:



5. The objection raised by the respondent that claim 1 extends beyond the content of the application as filed relates to the features of claim 1 addressed in sections 5.1 to 5.4 below:

5.1 *"through the addition of a hypochlorite of an alkaline or earth alkaline metal":*

The application as filed discloses from page 17, line 9 to page 18, line 13 and from page 24, line 23 to page 25, line 18, in agreement with the examples describing the *in situ* production of bromine (i.e. examples 1 and 3 to 7) that the bromine is obtained through the addition of a hypochlorite of an alkaline or earth alkaline metal bromide to the solution comprising the sugar to be activated and a bromide of an alkaline or earth alkaline metal. Hence, independently of the wording of claim 2 in the original application in English the presence of that feature in claim 1 does not result in the skilled person being presented with new technical information.

5.2 Presence of the feature *"wherein said hypochlorite is added instant by instant"* and omission of the feature *"the bromine quantity needed for the sugar activation is produced instant-by-instant"* :

5.2.1 The feature *"wherein said hypochlorite is added instant by instant"* does not have an explicit disclosure in the application as filed. The only occurrence of the wording *"instant by instant"* is to be found in the passage quoted in above section 4 for the description

of the reactions involved for the bromine production and the sugar activation.

- 5.2.2 The wording "*instant by instant*" as defined in present claim 1 is not to be read in isolation but in the light of the passages immediately preceding and following that wording, which passages define that the hypochlorite is added in stoichiometric quantities with respect to the aldehyde end groups and that an excess of hypochlorite in solution is never present as a result of that instant by instant addition of hypochlorite. This is in accordance with the disclosure in the paragraph bridging pages 18 and 19 of the application as filed where it is described that the purpose of using stoichiometric quantities of hypochlorite with respect to the aldehyde end groups and adding it slowly, is that "*the added hypochlorite only serves for the bromide oxidation and an excess of hypochlorite in solution is never present*", avoiding thereby oxidation secondary (side) reactions with the sugar (page 19, lines 14-19). The Board does not share the view expressed by the respondent that the expression "*an excess of hypochlorite in solution is never present*" would be ambiguous and therefore that it could not provide any direct and unambiguous disclosure. That expression present in claim 1 as granted and whose alleged ambiguity cannot be objected under Article 84 EPC in view of the ruling of G 3/14 (OJ EPO 2015, A102) does not aim at quantifying the amount of hypochlorite in the solution at a certain time, but rather expresses in the context of present claim 1 and of the original application as a whole the idea that the amount of hypochlorite gradually added should not exceed that which can be consumed for the production of bromine.

- 5.2.3 Hence, to avoid any excess of hypochlorite as defined in amended claim 1, the speed of addition of hypochlorite must be controlled. This is consistent with the disclosure in the examples that the hypochlorite solution was added over two hours (e.g. example 1, page 30, line 20; example 3, page 35, line 7). Based on that consideration, an instant by instant (i.e. a gradual or step by step) production of bromine by addition of the hypochlorite to the solution of sugar comprising the bromide is the result from an instant by instant (i.e. a gradual or step by step) addition of hypochlorite, and conversely.
- 5.2.4 Contrary to the view submitted by the respondent a sensible technical analysis of the application as filed does not leave any doubt in the mind of the skilled person that hypochlorite could also be added all at once or in one or more separate large portions, as this would be contrary to the teaching to avoid any excess of hypochlorite in the solution. The additional argument submitted by the respondent that reaction 2) which is slower than reaction 1) would be the limiting step of the overall reaction, because reaction 2) forms again sodium bromide, which is necessary to perform step 1), is rather an additional indication that in order to avoid excess of hypochlorite as disclosed in the application as filed a gradual addition of hypochlorite must take place.
- 5.2.5 The argument of the respondent that several measures would be available that would allow for an instant by instant production of bromine by a non-instant addition of hypochlorite for example by using a controlled release form of hypochlorite, such as an encapsulated hypochlorite, fails also to convince. Regardless of the question whether such compounds at all exist, which was

not shown by the respondent, a normal reading of the wording "*a hypochlorite of an alkaline or earth alkaline metal*" as used in operative claim 1 is that the compound as such is used and not a modified form thereof. There is therefore no reason to read into claim 1, nor into the original disclosure that a controlled release form of hypochlorite could be used in the present process. This is in line with other passages of the application as filed, such as the passage on page 25, lines 12-14 and with all examples describing the addition of a 12% active chlorine sodium hypochlorite solution.

5.2.6 Hence, the omission of the feature "*the bromine quantity needed for the sugar activation is produced instant-by-instant*" and the presence of the feature "*wherein said hypochlorite is added instant by instant*" do not result in the skilled person being presented with new technical information.

5.3 "*at a pH between 7,0 and 9,0*" (for the reaction of the sugar with bromine):

Apart from the fact that reaction 1) (between the bromide and the hypochlorite) and reaction 2) (between the sugar and the bromine formed in reaction 1)) take place in the same vessel, and that accordingly it would be technically not sensible to understand that the preferred pH of 7,0 to 9,0 indicated for reaction 1) would not be the one under which reaction 2) takes place, the application as filed in a consistent manner also explicitly discloses on page 25, lines 14-18 and at the bottom of page 19 that the preferred pH range for the bromine consumption leading to the oxidation of the aldehyde end groups of the sugar (i.e. reaction 2) is between 7,0 and 9,0. The disputed feature is

therefore directly and unambiguously disclosed in the original application.

5.4 *"in a weight ratio of iron to sugar from 1:0.5 to 1:4":*

5.4.1 The passages at page 25, lines 21-23 and page 28, lines 21-22 of the application as filed define as now inserted in claim 1 a numerical range of 1:0.5 to 1:4 for the weight ratio of iron to sugar, also in line with all examples of the application as filed which consistently define an iron to sugar ratio falling within that range.

5.4.2 Original claim 15 which according to the respondent would cast doubt on a basis in the application as filed for the above amendment describes a sugar to iron salt ratio of 1:0.5 to 1:4. The definition in original claim 15 is at odds with the above indicated general disclosure concerning a ratio between iron and sugar as the same numerical range is used not only for the inverse ratio, but also in respect of the amount of iron salt and not iron. This definition in original claim 15 represents an isolated disclosure in contradiction with the consistent disclosure in the rest of the application as filed, meaning that the skilled person would immediately understand that it constitutes an obvious mistake which therefore is not to be taken into account when assessing the technical information provided by the application as filed. Accordingly, the argument that claim 15 as filed describes an identical numerical range in relation to the iron salt has no bearing on the finding in above section 5.4.1 that a ratio of iron to sugar from 1:0.5 to 1:4 is disclosed in the application as filed.

5.5 Consequently, the objections raised by the respondent that the four above features would not be based on the application as filed fail to convince. Furthermore, it was not argued and the Board has no reason to have a different view that an extension of the content of the application as filed would result from their combination, i.e. that they would belong to separate embodiments described in the application as filed. On the contrary the subject-matter of present claim 1 is based on the general description of the process for activating the sugar supplemented by preferred features defined in dependent claims 7, 12 to 14 and 16 to 21 in the application as filed, a pointer to the combination of those preferred features being provided in examples 1 and 3 to 7.

5.6 It was also not disputed that claims 2 to 4 are based on original claims 23 to 25.

6. Accordingly, the claims according to the main request meet the requirements of Article 123(2) EPC.

Article 123(3) EPC

7. Claim 1 as granted defines in its preamble that the sugar to be activated and the bromine are reacted in "*a solution*" which is not further specified. It is also defined in the characterising portion of that claim that the hypochlorite is added instant-by-instant, such that an excess of hypochlorite "*in solution*" is never present. That step-by-step addition of hypochlorite is defined to result in an *in situ* production of bromine. These reaction steps and the instant-by-instant addition of hypochlorite steps are unambiguously defined as being activities characterizing claim 1 as granted. The objection of the respondent that the

subject-matter of operative claim 1 infringes the requirements of Article 123(3) EPC is based on the argument that claim 1 as granted also requires the additional activity of adding an alkaline or earth alkaline metal bromide, which step would be missing in operative claim 1. However, the absence of a definition of the solution addressed in the preamble of granted claim 1 and the lack of differentiation between the solutions to which the hypochlorite and the bromide should be added, as resulting from the use of the wording "*said solution*" in the characterising part of claim 1, do not allow for any unambiguous requirement that granted claim 1 defines as an activity to be performed within the claimed process the addition of the bromide to a specific solution comprising specific components. Accordingly, in respect of the alkaline or earth alkaline metal bromide claim 1 as granted does not go beyond requiring that said compound is present in the solution comprising the sugar to be activated as is in fact now defined in step ii) of operative claim 1. This is confirmed by the specification providing a description of the process as now claimed (see in particular examples 1 and 3 to 7).

8. Consequently, the objection of the respondent which is based on an improper reading of claim 1 as granted cannot convince. Therefore claim 1 of the main request is in keeping with the requirements of Article 123(3) EPC.

Remittal

9. Having so decided, the Board has not taken a decision on the whole matter, since the decision under appeal dealt exclusively with amendments which allegedly contravened the provisions of Article 123(2) EPC, which

objection is no longer pertinent. As the opposition division has not yet ruled on the other grounds for opposition, e.g. insufficient disclosure, novelty and inventive step, and the parties have requested remittal, the Board considers it appropriate to exercise its power conferred on it by Article 111(1) EPC to remit the case to the opposition division for further prosecution in order to enable the department of first instance to decide on the outstanding issues.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.

The Registrar:

The Chairman:



B. ter Heijden

D. Semino

Decision electronically authenticated