

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 10 February 2021**

Case Number: T 2307/18 - 3.3.06

Application Number: 10160830.5

Publication Number: 2206767

IPC: C11D3/10, C11D3/33, C11D11/00,
C11D17/00, C11D3/04, C11D3/08

Language of the proceedings: EN

Title of invention:
SOLID CLEANING COMPOSITIONS

Patent Proprietor:
Ecolab INC.

Opponents:
Reckitt Benckiser Finish B.V.
Henkel AG & Co. KGaA

Headword:
DIMENSIONAL STABILITY/ECOLAB

Relevant legal provisions:
EPC Art. 54, 56
RPBA Art. 12(4)
RPBA 2020 Art. 13(2)

Keyword:

Novelty - (no)

Inventive step - (no)

Late-filed evidence - admitted (yes)

Late-filed request - admitted (no)

Decisions cited:

T 0386/89

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 2307/18 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 10 February 2021

Appellant:
(Patent Proprietor)

Ecolab INC.
370 North Wabasha Street
St. Paul, MN 55102 (US)

Representative:

Godemeyer Blum Lenze Patentanwälte
Partnerschaft mbB - werkpatent
An den Gärten 7
51491 Overath (DE)

Respondent:
(Opponent 1)

Reckitt Benckiser Finish B.V.
Siriusdreef 14
2132 WT Hoofddorp (NL)

Representative:

Cawdell, Karen Teresa
Reckitt Benckiser
Corporate Services Limited
Legal Department - Patents Group
Dansom Lane
Hull HU8 7DS (GB)

Respondent:
(Opponent 2)

Henkel AG & Co. KGaA
Henkelstrasse 57
40589 Düsseldorf (DE)

Representative:

Viering, Jentschura & Partner mbB
Patent- und Rechtsanwälte
Hamborner Straße 53
40472 Düsseldorf (DE)

Decision under appeal:

**Interlocutory decision of the Opposition
Division of the European Patent Office posted on
4 July 2018 maintaining European Patent
No. 2206767 in amended form.**

Composition of the Board:

Chairman J.-M. Schwaller
Members: S. Arrojo
 R. Cramer

Summary of Facts and Submissions

- I. The appeal from the patentee (the appellant) lies from the interlocutory decision of the opposition division to maintain European patent No. 2 206 767 on the basis of auxiliary request 2 filed during oral proceedings on 18 May 2018.
- II. With its grounds of appeal, the appellant requested to set aside the decision and to maintain the patent as granted, or, as an auxiliary measure, on the basis of the claims of auxiliary request 1 filed therewith. It also submitted an experimental report designated as D11.

Claim 1 as granted (**main request**) reads as follows:

"1. A solid cleaning composition comprising: hydrated alkalinity source, hydrated sequestrant, or mixture thereof; the solid cleaning composition comprising particles of cleaning composition comprising an interior and a surface, the surface comprising binding agent; the surfaces of adjacent particles contacting one another just enough to provide sufficient contact of binding agent on the adjacent particles to provide a pressed stable solid cleaning composition, wherein the solid cleaning composition comprises a binding agent comprising a hydrated chelating agent, the hydrated chelating agent comprising a biodegradable aminocarboxylate selected from the group consisting of ethanoldiglycine, methylglydinediacetic acid, iminodisuccinic acid, N,N-bis(carboxylatomethyl)-L-glutamate, [S,S]-ethylenediaminedisuccinic acid (EDDS), 3-hydroxy-2,2'-iminodisuccinate (HIDS), and salt thereof."

Claim 1 of **auxiliary request 1** corresponds to that of the main request with the following amendments (highlighted by the board):

"1. A solid cleaning composition comprising: hydrated alkalinity source, and hydrated sequestrant, ~~or mixture thereof...~~"

III. In their replies, opponents 1 and 2 (also respondents 1 and 2) requested to dismiss the appeal. Respondent 2 also filed experimental report D12 and documents D13 and D14.

IV. With letter dated 6 May 2019 respondent 2 submitted an additional experimental report designated D15.

V. With letter dated 26 June 2019 the appellant requested not to admit documents D12-D15 into the proceedings. It also submitted an **auxiliary request 2**, wherein claim 1 corresponded to that of auxiliary request 1 with the following amendments (highlighted by the board):

"... and salt thereof, and wherein the solid cleaning composition comprises a carbonate hydrate binding agent."

VI. In its preliminary opinion, the board informed the parties that documents D11-D14 should be admitted into the proceedings, that claim 1 of the patent as granted and of auxiliary request 1 were not novel in view of D3 (WO 2005/105967 A1) and that auxiliary request 2 was admissible but not allowable under Article 56 EPC in view of D3.

VII. With letter dated 9 December 2020 the appellant submitted an **auxiliary request 3**.

VIII. Oral proceedings were held on 10 February 2021.

IX. Before the closure of the debate, the parties' requests were established to be as follows:

The appellant requested to set aside the decision and to maintain the patent as granted (main request) or, as an auxiliary measure, to maintain the patent on the basis of one of:

- auxiliary request 1 filed with the statement of grounds of appeal on 13 November 2018,
- auxiliary request 2 filed with letter dated 26 June 2019, or
- auxiliary request 3 filed with letter dated 9 December 2020.

The respondents requested that the appeal be dismissed.

Reasons for the Decision

1. Documents D11-D15 - Admittance

The board has decided not to exercise its discretion under Article 12(4) RPBA 2007 to disregard documents D11, D12, D13 and D14 for the following reasons:

- 1.1 The appellant filed experimental report D11 with its statement of grounds of appeal to support its argument that the presence of a hydrated alkalinity source gave rise to an unexpected technical effect (namely an improved dimensional stability).
- 1.2 Experimental report D12 was filed by respondent 2 with its reply to appeal to contest the results presented in D11.

- 1.3 The board regards the filing of D11 as a reaction to the opposition division's argument that the presence of a hydrated alkalinity source was not linked to any special technical effect. Since in its preliminary opinion the opposition division did not regard D3 as the closest prior art, the hydrated alkalinity source was not considered to be a differentiating feature. Consequently, there was no reason for the appellant to file this report during first instance proceedings.
- 1.4 Since document D12 is a direct response to the filing of D11, it would be contrary to the principle of equal treatment of parties to disregard it while admitting D11.
- 1.5 Documents D13 and D14 have been filed by respondent 2 to illustrate the scope of the compound EDTA in example 2 of document D3.
- 1.6 The appellant argued that these new documents should have been submitted during the first instance proceedings and that they should therefore not be admitted into the appeal proceedings.
- 1.7 The board is not convinced by this argumentation because the filing of these documents appears to be a response to the patentee's late submission of auxiliary request 1 (identical to auxiliary request 1 now on file) during the oral proceedings before the opposition division. Furthermore, as indicated by respondent 2, documents D13 and D14 are not filed to substantiate new facts but to support an existing objection. In particular, these documents merely intend to clarify the scope of the component EDTA in example 2 of document D3. Additionally, at least the information in

document D13 is considered to be *prima facie* relevant for the outcome of the proceedings.

1.8 Consequently, the board sees no reason to exercise its discretion under Article 12(4) RPBA 2007 not to admit documents D11-D14 into the proceedings. These documents are therefore part of the proceedings.

1.9 Since document D15 is not considered to be relevant for the decision, there is no need to deal with the question of admittance of this document.

2. Main request - Novelty

The ground for opposition under Article 100(a) EPC in combination with Article 54 EPC prejudices the maintenance of the patent as granted:

2.1 Example 2 of document D3 discloses four different formulations of a solid cleaning composition, all of them comprising (see table 2) trisodium salt of MGDA, surfactant, EDTA and water. The EDTA is identified with the CAS number # 013235-36-4 which, in view of D13, corresponds to the tetrahydrated tetrasodium salt of EDTA.

The example provides a method of manufacturing a solid cleaning puck, wherein the components are mixed and water is added to promote hydration of the MGDA. The mixture is then placed in a cup and pressed to form the solidified matrix.

2.2 The appellant argued that it was clear from the wording of claim 1 that the hydrated sequestrant or the hydrated alkalinity source were different from the hydrated chelating agent. Example 2 of D3 disclosed a

hydrated chelating agent (i.e. the MGDA trisodium salt) but neither disclosed a hydrated sequestrant nor a hydrated alkalinity source, because there was no indication that the EDTA was hydrated. The fact that the name "EDTA" in table 2 of D3 was followed by a CAS number associated with the hydrated sodium salt of EDTA could only be attributed to an erroneous inconsistency, because the generally accepted meaning of the term "EDTA" was ethylenediaminetetraacetic acid, i.e. an acid and not a hydrated salt. If D3 had intended to refer to a salt of EDTA, this would have been specified, as it was the case in D13 (top paragraph of page 2) or in D14 (table 1). In view of the inconsistency between the term EDTA and the accompanying CAS number in table 2, the exact meaning of this substance would have to be interpreted in the light of the description of D3, which on page 9, line 10 explicitly confirmed that the term "EDTA" referred to the acid form of the sequestrant.

The EDTA in example 2 of D3 could also not be an alkalinity source, because EDTA was an acid. Furthermore, the pH of 11.3 disclosed in document D14 was associated with the anhydric form of the tetrasodium salt of EDTA, so this pH did not relate to either the acidic EDTA in example 2 of D3 or the hydrated EDTA salt in D13.

Example 2 of D3 did also not anticipate the binding structure of the particles as proposed in claim 1. In particular, there was no detailed information as to how the tablets in this example were solidified (e.g. by applied pressure). The general teaching of D3 (page 24, last paragraph to page 25, first paragraph) indicated that the ingredients were homogenised and that casting or extrusion was used to form the tablets, all of which

would be incompatible with the feature *"the surfaces of adjacent particles contacting one another just enough to provide sufficient contact of binding agent on the adjacent particles"* in claim 1.

- 2.3 The board does not follow this argumentation because, as argued by the opposition division, the hydrated trisodium salt of MGDA can be regarded as both a hydrated sequestrant and a hydrated chelant. The wording in claim 1 does not allow the conclusion that the chelant and the sequestrant must be different substances. Consequently, the hydrated trisodium MGDA in example 2 of D3 anticipates both the hydrated sequestrant and the hydrated chelating agent in claim 1. This consideration suffices to render claim 1 not novel in view of D3.

Moreover, the board does not see any ambiguity or inconsistency in the description of the EDTA in table 2 of example 2 in D3. While it is true that the term "EDTA" as such (e.g. as used on page 9, line 10 of D3) refers to the acidic form of this substance, this term is not disclosed in isolation in table 2, but is immediately followed by a CAS number, which (in view of D13) unambiguously indicates that the EDTA is in its tetrahydrated tetrasodium salt form. Consequently, the EDTA in example 2 of D3 is also considered to fall within the scope of the feature *"hydrated sequestrant"* in claim 1.

The board also considers that document D3 implicitly discloses *"surfaces of adjacent particles contacting one another just enough to provide sufficient contact of binding agent on the adjacent particles"*, because this feature in claim 1 merely provides a diffuse functional or mechanistic indication of how the

particles bind to one another. This broad functional aspect can be read in virtually any solidified matrix comprising a binding agent (as it is the case in D3). Even if this feature were further interpreted in the light of paragraph [0080] of the description, which explains how the solidification takes place through a hydration process of the binding agent (i.e. the hydrated aminocarboxylate chelating agent), in example 2 of D3 the hardening of the composition also occurs via MGDA hydration. The board also notes that, contrary to the arguments of the appellant, the steps previous to the solidification in D3 (i.e. homogenising, casting or extruding) are considered to be compatible with the above feature.

2.4 It follows from the above considerations that Example 2 of document D3 anticipates all the features of claim 1.

3. Auxiliary request 1 - Novelty

This request does not comply with the requirements of Article 54 EPC for the following reasons:

3.1 The subject-matter of claim 1 is restricted to compositions comprising *"hydrated alkalinity source and hydrated sequestrant"*.

3.2 The appellant essentially followed the same arguments presented above to conclude that, on top of the already alleged differences, the composition according to claim 1 now included a hydrated alkalinity source. Since the MGDA in example 2 was considered to correspond to both the hydrated sequestrant and the hydrated chelating agent in claim 1, and there was no evidence that the EDTA was hydrated or that it provided an alkalinity source, the feature *"hydrated alkalinity source"*

represented a further differentiating feature of claim 1 with respect to example 2 of D3.

- 3.3 The board does not follow this argumentation because as explained in point 2.3 above, the EDTA in example 2 of D3 is a tetrasodium tetrahydrated salt of EDTA, and even if the pH disclosed in D14 is not taken into account, a soluble salt of an organic acid such as EDTA must have a basic character because, in solution, the anion will act as conjugate base of that acid (regardless of whether the salt is hydrated or not), therefore providing an alkalinity source. The EDTA is therefore considered as a hydrated alkalinity source according to claim 1.

In view of the additional arguments and conclusion in point 2.3 above, and considering that the trisodium MGDA in example 2 of D3 anticipates both the hydrated sequestrant and the hydrated chelating agent, it follows that the amendments to claim 1 do not render its subject-matter novel.

4. Auxiliary request 2 - Inventive step

This request does not comply with the requirements of Article 56 EPC, and is therefore not allowable for the following reasons:

- 4.1 The subject-matter of claim 1 corresponds to that of auxiliary request 1 wherein the composition further comprises "*a carbonate hydrate binding agent*".

- 4.2 Closest prior art

- 4.2.1 In view of the similarities in the solidification process and in the substances of the composition,

example 2 of document D3 is considered to represent the closest prior art. This was not contested by the parties.

- 4.2.2 The appellant argued that claim 1 of this request differed from example 2 in the presence of a carbonate hydrate binding agent, but also in the presence of a hydrated alkalinity source and in the proposed solidification structure of the particles.
- 4.2.3 In view of the arguments and conclusions in points 2.3 and 3.3 above, the board considers that the subject-matter of claim 1 differs from example 2 of D3 only in that the composition includes a carbonate hydrate binding agent.
- 4.3 Problem solved
 - 4.3.1 The patent aims at providing alternative solid cleaning compositions and methods to manufacture them, wherein the resulting pucks have an improved dimensional stability (par. [0080]). According to tables 3 and 5 of the patent, the addition of an aminocarboxylate binding agent to the composition reduces the swelling of the pucks when these are exposed to room temperature for one day and then put in an oven at 49°C for an unspecified period of time (par. [0202]). Document D11 provides further results comparing the change in dimensions of pucks according to example AF in the patent and pucks according to example 2 of document D3, when these are partially submerged in water at 49°C for 3 minutes.
 - 4.3.2 The appellant argued that document D11 demonstrated that the pucks according to the invention had better dimensional stability than those of example 2 of D3 and

that document D12 did not contradict these results, because the test had been performed under different conditions, namely using higher pressures for manufacturing the pucks, which clearly went against the teachings of the patent to manufacture the pucks with low pressure.

In any case, table 2 of D12 indicated that the pucks according to example 2 of D3 decreased significantly more in size than those of example AF according to the invention, so this document also supported the conclusion that the pucks according to the invention were dimensionally stable.

The dimensional stability test in D11 represented an improved version of that in the patent, because it mirrored the conditions to which the pucks were confronted. Moreover, the invention intended to improve the dimensional stability in general, regardless of how this parameter was measured, and D11 successfully demonstrated that the differentiating features provided this effect.

Although the example AF included some features which were not defined in claim 1, this only implied that this composition included additional preferred features which might further contribute to the solution of the underlying technical problem.

4.4 The board does not follow this argumentation for the following reasons:

- The test used in D11 to measure the so-called "dimensional stability" is substantially different from that proposed in the patent in suit. Paragraph [0202] of the patent describes a method to determine this

"dimensional stability" by measuring the swelling of pucks (see table 2) after keeping them one day at room temperature and placing them in an oven at 49°C (no time specified). By contrast, in document D11 the "dimensional stability" is determined by measuring the shrinking and swelling (see table 5) of the pucks when they are partially immersed in water at 49°C for 3 minutes and subsequently dried.

- The parameter "dimensional stability" does not have a generally accepted meaning in the field, so the skilled person would have to interpret it in the light of the patent. In view of the test proposed in paragraph [0202], this concept is interpreted as the capacity of the solid matrix to limit the swelling of the pucks when these are stored for some time and exposed to moderately high temperatures. While it might have been acceptable to make quantitative adjustments to this test without departing from the concept of "dimensional stability" according to the patent (e.g. by modifying the time and/or the temperatures to which the pucks were exposed), the changes introduced in D11 are not quantitative but qualitative, in the sense that the immersion of the pucks in water gives rise to physical phenomena which are different from those dealt with in the patent. For example, while the swelling of the pucks in the patent appears to be essentially the result of moderate heat, the shrinking and swelling of the different dimensions of the pucks in D11 is arguably associated with partial dissolution of the pucks and/or water absorption. The board therefore considers that the technical effect shown in D11 is substantially different from the "dimensional stability" addressed in the patent.

- As a matter of principle, when the problem being solved has to be reformulated against the closest prior art, a new technical effect vis-a-vis this prior art might be taken into account provided it is implicitly or explicitly derivable from the application as filed (see for example T 386/89 reasons 4.2 and 4.3). In the present case, the board sees no explicit or implicit hint in the patent which could point to a technical effect related to dimensional modifications of the puck caused by immersion in water. The technical effect allegedly shown in D11 can therefore not be taken into account for assessing the problem solved by the invention.

- Since neither the patent in suit nor document D11 convincingly demonstrate that the presence of carbonate hydrates provides any specific technical effect, the board is of the opinion that the only problem solved by the invention is that of proposing an alternative composition.

4.5 Obviousness

4.5.1 Document D3 discloses (page 10, lines 25-32) embodiments including alkalinity sources such as *i.a.* sodium or potassium carbonate to enhance the cleaning performance and soil removal. It also refers (page 6, lines 1-5) to the tendency of some alkalinity sources to compete with MGDA for water (*i.e.* to form hydrates), concluding (page 6, lines 5-7) that in some embodiments the amount of such alkalinity sources (those competing with MGDA or forming hydrates) should be limited to avoid interference with solidification.

4.5.2 The appellant put forward two different lines of argumentation, the first being based on the assumption

that the problem solved by the invention was the provision of a composition with good dimensional stability, and the second starting from the problem of providing an alternative composition. Since it has already been concluded that the problem solved by the invention is the provision of an alternative composition, only the second line of argumentation will be addressed.

The appellant argued that it was not obvious to combine the composition of example 2 with a hydrated carbonate, because document D3 taught away from using carbonate binding agents (page 6, first paragraph). Furthermore, while reference was made to metal carbonates for soil removal (page 10, lines 26-33), D3 did not anticipate the feature "carbonate hydrate" or the use of the carbonate as binding agent. The hydration and the binding function of the metal carbonate required a certain amount of this substance, which a skilled person starting from D3 would not consider because this document taught using a single binding agent. In any case, even if the skilled person considered adding a functional ingredient, this would have to be selected from a long list of alternatives (see claim 7), so it was not apparent why the addition of a cleaning agent such as a metal carbonate would be obvious, particularly in view of the fact that the compositions in example 2 were solidification matrixes and not cleaning compositions.

4.5.3 The board does not agree with the appellant for the following reasons:

- While it is true that document D3 (page 6 lines 1-5) discloses embodiments which are free of components which can compete with the MGDA for water, such as

alkalinity sources, D3 (page 6 lines 5-7) also discloses embodiments in which such components are added in an amount which prevents interference with the MGDA solidification. Additionally, document D3 (page 10, lines 25-32) discloses embodiments including effective amounts of alkaline sources such as metal carbonates to enhance cleaning and to improve soil removal. Document D3 therefore contemplates compositions containing metal carbonates in amounts which enhance cleaning and soil removal while limiting the interference with the MGDA solidification process.

- The relevant question is therefore whether or not the addition of metal carbonates in limited amounts according to the above mentioned embodiments in D3 would fall within the scope of the feature "*carbonate hydrate binding agent*" in claim 1. The appellant's argument relies on the idea that a skilled person would be able to distinguish carbonates used for cleaning purposes from those used as binding agent, because the binding function would require a minimum amount of carbonates to ensure that these react with water to form hydrates. However, in the absence of evidence to support that such distinction indeed exists and would be recognised by a skilled person, and considering that claim 1 does not define the concentrations of the ingredients, the board concludes that both functions (soil removal and binding agent) are implicitly associated with the nature of the metal carbonates. More specifically, the board considers that once carbonate metals are added to a water containing mixture, at least some carbonate hydrates will be formed, which implies that such carbonate metals would fall within the scope of the feature "*carbonate hydrate binding agent*" in claim 1. This is also hinted on page 10, lines 28-30 of D3, which indicates that the

alkalinity source (i.e. the metal carbonate) "is bound into a solid due to the presence of the binder composition including MGDA and water".

It is also noted that, contrary to the arguments of the appellant, the compositions in example 2 are explicitly described as "solid cleaning compositions", and not as solid matrixes.

Since the only problem solved by the invention is that of providing an alternative, a skilled person starting from the example 2 of D3 would thus arrive at the subject-matter of claim 1 by merely considering the alternative embodiments disclosed in document D3 and without exercising inventive skills.

4.6 The board therefore concludes that the subject-matter of claim 1 is not inventive in view of D3.

5. Auxiliary request 3 - Admittance

This request is not admitted under Article 13(2) RPBA 2020 for the following reasons:

5.1 It was filed with the patentee's letter dated 9 December 2020 - after notification of the summons to oral proceedings - so its admittance is governed by Article 13(2) RPBA 2020, which stipulates that amendments filed at this late stage "shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned".

5.2 The appellant argued that the new request solved the alleged differences between the reports D11 and D12,

and that the amendments which had been introduced were simple.

5.3 The board does not consider any of these reasons as an "exceptional circumstance" within the meaning of Article 13(2) RPBA 2020, so the request can not be admitted at this stage.

6. As none of the sets of claims underlying the proposed requests meets the requirements of the EPC, the appeal cannot succeed and the decision of the opposition division is confirmed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



A. Pinna

J.-M. Schwaller

Decision electronically authenticated