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**Datasheet for the decision  
of 8 June 2022**

**Case Number:** T 1963/20 - 3.3.05

**Application Number:** 13850128.3

**Publication Number:** 2914545

**IPC:** C01B11/06, C01B11/04, C01B11/00

**Language of the proceedings:** EN

**Title of invention:**  
SODIUM HYPOCHLORITE COMPOSITION

**Applicant:**  
Olin Corporation

**Headword:**  
SODIUM HYPOCHLORITE/Olin

**Relevant legal provisions:**  
RPBA 2020 Art. 12(4)  
EPC Art. 123(2), 54, 56

**Keyword:**

Amendment to case - requirements of Art. 12(2) RPBA 2020 met  
(no) - main request, auxiliary requests 2-6 - amendment  
overcomes objection (yes) - auxiliary request 7  
Novelty - (yes) - auxiliary request 7  
Inventive step - (yes) - auxiliary request 7 - non-obvious  
alternative - auxiliary request 7

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
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Case Number: T 1963/20 - 3.3.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.05**  
**of 8 June 2022**

**Appellant:** Olin Corporation  
(Applicant) 190 Carondelet Plaza  
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**Representative:** Hedges, Martin Nicholas  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 18 May 2020  
refusing European patent application No.  
13850128.3 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** E. Bendl  
**Members:** J. Roider  
W. Sekretaruk

## Summary of Facts and Submissions

- I. The appeal lies from the decision of the examining division to refuse the European patent application.
- II. In the course of the examination proceedings the following documents were referred to:
- |    |                  |
|----|------------------|
| D1 | WO 92/17399 A1   |
| D2 | JP 2000 290003 A |
| D3 | US 5,194,238 A   |
- III. In its decision the examining division concluded *inter alia* that the claims then on file did not meet the requirements of Article 123(2) EPC.
- IV. The applicant (now appellant) appealed against this decision and submitted an amended main request and amended auxiliary requests 1 to 7 with its grounds of appeal.
- V. Claims 1 and 16 of the main request read (deletions and additions with respect to the decision under appeal being indicated):
- VI. "1. A sodium hypochlorite composition comprising sodium hypochlorite pentahydrate crystals and a mother liquor saturated in sodium hypochlorite, comprising greater than 25% and up to 39.51% by weight sodium hypochlorite, and sodium chloride, in [sic] amount from 3.45% to 10% by weight."
- "16. A composition according to claim 1, wherein sodium chloride composition [sic] is from ~~3.41~~4.47% to 6.13% by weight and the sodium hypochlorite composition is

*from 29.98% to 32.171.12% by weight."*

- VII. Claim 1 of auxiliary request 1 is identical to claim 1 of the main request.

Claim 3 of auxiliary request 1 reads:

*"3. A composition according to claim 1 comprising 28% by weight sodium hypochlorite and 7% by weight Sodium Chloride."*

- VIII. Claim 1 of auxiliary request 2 reads (deletions and additions with respect to the decision under appeal being indicated):

*"1. A sodium hypochlorite composition comprising sodium hypochlorite pentahydrate crystals and a mother liquor saturated in sodium hypochlorite, comprising ~~greater than 25~~ from 36.69% and up to 39.5140.38% by weight sodium hypochlorite, and sodium chloride, in [sic] amount from ~~3.452.21%~~ to 103.95% by weight."*

- IX. Claim 1 of auxiliary request 3 is based on claim 1 of auxiliary request 2, further adding at the end of it:

*" , and further comprising an alkali to stabilize the composition, the alkali comprising 0.44% to 1.01% by weight NaOH and 0.044% to 0.083% by weight Na<sub>2</sub>CO<sub>3</sub> of the composition."*

- X. Claim 1 of auxiliary request 4 reads (deletions and additions with respect to the decision under appeal being indicated):

*"1. A sodium hypochlorite composition comprising sodium hypochlorite pentahydrate crystals and a mother liquor saturated in sodium hypochlorite, comprising ~~greater~~*

~~than 25~~ from 30.46% and up to 39.51~~32.17%~~ by weight sodium hypochlorite, and sodium chloride, in [sic] amount from ~~3.45~~2.17% to ~~10~~4.25% by weight."

XI. Claim 1 of auxiliary request 5 is based on claim 1 of auxiliary request 4, further adding at the end of it:

" , and further comprising an alkali to stabilize the composition, the alkali comprising 0.15% by weight NaOH."

XII. Claim 1 of auxiliary request 6 reads (deletions and additions with respect to the decision under appeal being indicated):

*"1. A sodium hypochlorite composition comprising sodium hypochlorite pentahydrate crystals and a mother liquor saturated in sodium hypochlorite, comprising ~~greater than 25~~ from 29.23% and up to 39.51~~32.17%~~ by weight sodium hypochlorite, and sodium chloride, in [sic] amount from ~~3.45~~2.79% to ~~10~~6.13% by weight."*

XIII. Claim 1 is the sole claim of auxiliary request 7 and reads (deletions and additions with respect to the decision under appeal being indicated):

*"1. A sodium hypochlorite composition comprising sodium hypochlorite pentahydrate crystals and a mother liquor saturated in sodium hypochlorite, comprising ~~greater than 25~~ 28% and up to ~~39.51%~~ by weight sodium hypochlorite, ~~and sodium chloride,~~ in amount from [sic] ~~3.45~~7% to 10% by weight, and 0.6% sodium hydroxide."*

XIV. The arguments of the appellant can be summarised as follows:

Admission of new requests

Although the current auxiliary requests could have been filed earlier, in view of the opinion of the examining division it did not seem promising to file further requests.

Auxiliary request 1 is derived from the request forming the basis of the impugned decision by deleting dependent claims.

Auxiliary requests 2 to 6 contain further amendments to overcome the objections raised by the examining division.

Example 3 (paragraph [0027]) as originally filed is discussed on page 2 of the communication referred to in the impugned decision. Claim 1 of auxiliary request 7 describes the combination of features of this example, which are also encompassed by claim 9 of the request underlying the decision under appeal. Since all the other claims have been deleted, the claimed subject-matter can thus be reviewed in a judicial manner.

Amendments of auxiliary request 1, Article 123(2) EPC

The amendment of claim 3 stems from paragraph [0027] of the original application. Although the sodium hydroxide described therein is essential for stabilising the composition, it is immediately conceivable to the skilled person that alternative alkali could be used.

- XV. The appellant requests that the impugned decision be set aside and a patent be granted on the basis of the main request or on the basis of one of auxiliary requests 1 - 7, all filed with the grounds of appeal.

## Reasons for the Decision

1. *Admission of the requests filed with the statement of grounds of appeal*
- 1.1 In the examination procedure, the appellant was made aware of the deficiencies of the then-main request in the annex to the summons to oral proceedings before the examining division.
- 1.2 However, the appellant chose not to address the deficiencies, either in writing or during the oral proceedings. Instead, it withdrew its request for oral proceedings and requested a decision according to the state of the file.
- 1.3 The examining division hence decided to refuse the patent application with reference to the reasons notified to the appellant in the annex to the summons to oral proceedings.
- 1.4 In the appeal proceedings, the appellant filed a new main request whereby *inter alia* the ranges in dependent claim 16 of the present main request were amended.
- 1.5 Auxiliary request 1 contains the same amendments as the main request but with claim 16 deleted entirely.
- 1.6 Auxiliary requests 2 to 6 contain altogether three different versions of amended ranges of the sodium hypochlorite and the sodium chloride content in claim 1.
- 1.7 Auxiliary request 7 contains a single claim, which is the combination of the features encompassed by claim 9 of the request forming the basis of the impugned



decision, with all the other claims being deleted.

- 1.8 The main request and all the auxiliary requests are to be considered as an amendment to the appellant's case and their admission is subject to the board's discretion (Article 12(4) RPBA (2020)).
- 1.9 The primary object of appeal proceedings is to review the decision under appeal in a judicial manner (Article 12(2) RPBA 2020).
- 1.10 Thus the intention is to review the correctness of the first-instance decision rather than to continue examination by other means (case law book of the Boards of Appeal, 9th edition, V.A.4.2.2). By presenting amended requests, which are apt to present a new case, only in appeal proceedings, the appellant makes it impossible for the board to examine the contested decision.
- 1.11 Concerning the main request, it is not apparent why the amendments, particularly the amended ranges contained in claim 16, could not have been submitted in the examination proceedings. This consideration also applies to auxiliary requests 2-6, since they contain amended ranges/deletions too. Indeed, the appellant was informed of the deficiencies in the annex to the summons before the examining division but decided not to file amended claims, and even to withdraw its request for oral proceedings.

The perception that the filing of further requests did not seem promising in view of the opinion of the examining division is not valid circumstances which might justify the filing of the claims only in appeal proceedings.

The main request and auxiliary requests 2 to 6 are therefore not admitted into the appeal proceedings.

1.12 The question of whether auxiliary request 1 is to be admitted into the appeal proceedings is not relevant to the present decision, as the requirements of Article 123(2) EPC are not met anyway (see reasoning below).

1.13 Auxiliary request 7 refers exclusively to the features encompassed by claim 9 of the request forming the basis of the impugned decision. Claim 1 is the only claim of this request.

Since the features encompassed by claim 9 and the corresponding passage of the description (para. [0027]) were dealt with in the decision under appeal, the restriction to this claim meets the primary object of appeal proceedings of reviewing the decision under appeal in a judicial manner (Article 12(2) RPBA 2020). In addition, the amendments are not complex, and clearly overcome the issues which have led to the decision under appeal (Article 12(4) RPBA 2020).

Auxiliary request 7 is therefore admitted into the appeal proceedings.

2. *Auxiliary request 1, Article 123(2) EPC*

The appellant argues that claim 3, which was added in the examination phase, had a basis in para. [0027] of the original application.

The first sentences of para. [0027] read:

*"[0027] A sample of hypochlorite solution having about 28% sodium hypochlorite, 7% sodium chloride, and 0.6% sodium hydroxide was cooled to 0 degrees C. Formation of pentahydrate crystals was initiated by adding a few sodium hypochlorite pentahydrate crystals previously prepared. The mixture rapidly formed a network of crystals and became semi-solid. A 500 gram sample of this semi-solid mixture was added to a laboratory mill ..."*

The definition of the composition according to the subject-matter of claim 1 of the first auxiliary request does not include the amount of 0.6% sodium hydroxide.

Sodium hydroxide provides stability to the composition, a central aspect of the patent application (see paragraphs [0010]-[0011]). It is therefore a feature which is in close interrelation with the remaining components of the example. Paragraph [0027] of the original application thus does not directly and unambiguously disclose the composition without the specified amount of sodium hydroxide.

The appellant argues that it was conceivable for the skilled person to add alternative alkali. This argument however already fails because the subject-matter of claim 1 does not require alkali at all.

Therefore the subject-matter of claim 3 does not have a basis in para. [0027] of the original application (Article 123(2) EPC).

3. *Auxiliary request 7, Article 123(2) EPC*

The examining division argued that the amounts of hypochlorite and sodium chloride were closely associated with the sodium hydroxide content and the temperature of example 3 as originally filed, so the amounts of the components first mentioned could not be considered in isolation.

In view of the insertion of "0.6% sodium hydroxide", the objection concerning the first feature is clearly overcome.

As to the second feature in question, the board does not share the examining division's view, as it is not derivable from example 3 as originally filed that, after the formation of the pentahydrate crystals had been initiated, the samples were further processed at a specific temperature.

Thus the sole claim of auxiliary request 7 is considered to meet the requirements of Article 123(2) EPC.

3.1 *Auxiliary request 7, Article 54(1) and (2) EPC*

In the examination procedure D1 to D3 were cited by the examining division as anticipating the novelty of the subject-matter of claim 1 of the main request underlying the impugned decision.

D1 discloses a process for producing an aqueous slurry of sodium hypochlorite pentahydrate crystals which contains less than 3% by weight sodium chloride (claims 4 and 9).

D2 discloses a process for producing an aqueous slurry of sodium hypochlorite pentahydrate crystals which contains a very low amount, i.e. less than 1%, of sodium chloride.

D3 discloses a process for producing an aqueous slurry of sodium hypochlorite pentahydrate crystals which contains less than 3% by weight sodium chloride (claims 4 and 9).

Already because of the different sodium chloride composition, the subject-matter of claim 1 is novel over D1 to D3.

4. *Auxiliary request 7, Article 56 EPC*

The patent application is directed to a sodium hypochlorite composition.

All three documents D1 - D3 are directed to the production of a sodium hypochlorite composition and qualify as a starting point for an inventive-step objection. However, only D1 and D3 disclose a residual sodium hydroxide concentration, and are thus considered a more-promising starting point.

The technical problem the patent application attempts to solve is to provide a stable sodium hypochlorite composition (paragraph [0014] of the original application).

According to paragraphs [0014] and [0015], this technical problem is credibly solved by ensuring a certain sodium hydroxide and sodium chloride content in the composition.

However, D1 and D3 also seek to provide a stable sodium hypochlorite composition.

Therefore the technical problem must be reformulated to a less-ambitious one, which is to provide an alternative stable composition.

The solutions provided in D1 and D3 teach the skilled person away from the solution provided by the subject-matter of claim 1 because they teach not exceeding a sodium chloride concentration of 3% by weight.

The subject-matter of claim 1 is thus not rendered obvious by the cited prior art.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the examining division with the order to grant a patent on the basis of auxiliary request 7, filed with the grounds of appeal, and a description to be adapted.

The Registrar:

The Chairman:



C. Vodz

E. Bendl

Decision electronically authenticated