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Datasheet for the decision of 11 May 2026

Case Number: T 1164/24 - 3.3.09

Application Number: 18816069.1

Publication Number: 3728187

IPC: C07C407/00, C07C409/34, C07C409/38

Language of the proceedings: EN

Title of invention:
PROCESS FOR PREPARING A POWDERY ORGANIC PEROXIDE FORMULATION

Patent Proprietor:
Nouryon Chemicals International B.V.

Opponent:
United Initiators GmbH

Headword:
Process for preparing a powdery organic peroxide formulation/ NOURYON

Relevant legal provisions:
RPBA 2020 Art. 12(6), 12(2)
EPC Art. 83, 56
EPC R. 99(2)

Keyword:
Admissibility of appeal (yes)
Claims - claim interpretation - examples covered by the claim (yes)
Sufficiency of disclosure - (yes)
Inventive step - main request (no) - auxiliary request (yes)

Decisions cited:
G 0001/24, T 0243/23

Catchword:

Europäisches Patentamt
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Office européen des brevets

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

Case Number: T 1164/24 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 11 May 2026

Appellant: (Opponent)	United Initiators GmbH Dr.-Gustav-Adolf-Str. 3 82049 Pullach (DE)
Representative:	Weickmann & Weickmann PartmbB Postfach 860 820 81635 München (DE)
Respondent: (Patent Proprietor)	Nouryon Chemicals International B.V. Velperweg 76 6824 BM Arnhem (NL)
Representative:	Ingrassia, Fisher & Lorenz UK Ltd. Cambridge House Henry Street Bath BA1 1BT (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted/electronically transmitted on 16 August 2024 rejecting the opposition filed against European patent No. 3728187 pursuant to Articl e 101(2) EPC.**

Composition of the Board:

Chairman	A. Haderlein
Members:	A. Zellner
	R. Romandini

Summary of Facts and Submissions

I. The opponent lodged an appeal against the opposition division's decision to reject the opposition against the European patent (Article 101(2) EPC).

II. A notice of opposition had been filed on the basis of Article 100(a) EPC for lack of inventive step (Article 56 EPC) and Article 100(b) EPC.

III. The opposition division held that the patent as granted met the requirements of Articles 83 and 56 EPC. It acknowledged inventive step starting from each of documents D1 and D2 as the closest prior art.

IV. Reference is made to the following documents:

D1: WO 2012/159726 A1
D2: DE 1768199 A1
D3: WO 96/27586 A1
D8: Beschreibung der Versuche 5-7, filed by the appellant on 11 November 2024

V. Claim 1 of the main request (patent as granted) reads as follows:

"Process for preparing a powdery organic peroxide formulation, said process comprises the following steps:

a) preparing a reaction mixture comprising:

- *40-80 wt% water*
- *10-25 wt% of an acid chloride or chloroformate,*
- *1-4 wt% hydrogen peroxide,*

- 2-8 wt% alkali metal hydroxide,

- 1-25 wt% of a phlegmatizer selected from the group consisting of ethylene glycol dibenzoate, phenyl benzoate, trimethylol propane tribenzoate, glyceryl tribenzoate, ethylene glycol ditoluate, 1,3-propanediol ditoluate, ethylene glycol 4-tert-butylbenzoate, ethylene glycol monobenzoate monotoluate, 2,3-butanediol dibenzoate, 4- methylphenyl benzoate acid ester, trimethylolpropane dibenzoate, and combinations thereof

- 0.002-0.20 wt% of a surfactant, and

- 0.25-5.0 wt% of an inert organic solvent,

all percentages based on the weight of the reaction mixture,

b) heating the reaction mixture at a temperature in the range 5-50°C."

VI. Claim 1 of auxiliary request IV reads as follows (emphasis by the board):

"Process for preparing a powdery organic peroxide formulation, said process comprises the following steps:

a) preparing a reaction mixture comprising:

- 40-80 wt% water

- 10-25 wt% of an acid chloride or chloroformate,

- 1-4 wt% hydrogen peroxide,

- 2-8 wt% alkali metal hydroxide,

- 1-25 wt% of a phlegmatizer selected from the group consisting of ethylene glycol dibenzoate, phenyl benzoate, trimethylol propane tribenzoate, glyceryl tribenzoate, ethylene glycol ditoluate, 1,3-

propanediol ditoluate, ethylene glycol 4-tert-butylbenzoate, ethylene glycol monobenzoate monotoluate, 2,3-butanediol dibenzoate, 4- methylphenyl benzoate acid ester, trimethylolpropane dibenzoate, and combinations thereof

*- 0.002-0.**0**20 wt% of a surfactant, and*

- 0.25-5.0 wt% of an inert organic solvent,

all percentages based on the weight of the reaction mixture,

b) heating the reaction mixture at a temperature in the range 5-50°C."

VII. The appellant's arguments can be summarised as follows.

- The appeal was admissible. The statement of grounds of appeal contained all the arguments why the opposition division's decision was erroneous.

- The claimed method was not sufficiently disclosed. No examples fell within the claimed process. To obtain a process as claimed, the skilled person had to modify the examples without sufficient guidance. Furthermore, the examples did not show that the claimed process could be performed across the entire claimed scope.

- The claimed process was not based on an inventive step starting from each of documents D1 and D2 as the closest prior art.

- The different amounts of surfactant and acid chloride in the claimed process compared to the process of Example 1 of D1 did not lead to a technical effect, in particular not over the entire

claimed range. This was supported by the disclosure of D8. Comparative Example C of the patent was not a suitable comparative example due to the use of a different phlegmatizer. The skilled person would modify the amounts disclosed in D1 in a routine manner and would obtain a process as claimed. The claimed process was obvious over D1.

- The use of a different phlegmatizer compared to the example of D2 was also not inventive because the skilled person was aware of the negative properties of phthalates and would replace them with a less toxic compound. The claimed process was obvious over D2.

VIII. The respondent's arguments can be summarised as follows.

- The appeal was inadmissible because the appellant had not substantiated its reasoning why the contested decision was erroneous.

- The claimed process was sufficiently disclosed. The skilled person could easily follow the teaching of the patent.

- Considering D1 to be the closest prior art, the distinguishing features referred to by the appellant led to an improved process having a higher yield, reduced foaming and reduced dust formation. These effects were demonstrated by Comparative Example C. Since there was no suggestion in the prior art to amend the process disclosed in D1 according to claim 1 of the patent, inventive step had to be acknowledged.

- Document D2 was not a valid starting point for the assessment of inventive step. Other, more suitable documents, such as D1, built upon the teaching of D2.

- Document D8 should not be admitted into the appeal proceedings.

- The auxiliary requests should be admitted into the appeal proceedings. The processes claimed in these requests were also inventive, and they were thus allowable.

IX. The appellant (opponent) requested that the decision under appeal be set aside and that the patent be revoked.

X. The respondent (patent proprietor) requested that the appeal be rejected as inadmissible. The respondent further requested that the appeal be dismissed or that the patent be maintained on the basis of auxiliary request IV, filed with the patentee's reply to the notice of opposition; auxiliary requests V to XVa, filed in the proceedings before the opposition division; or auxiliary requests XVI to XX, filed with the reply to the statement setting out the grounds of appeal.

Reasons for the Decision

Admissibility of the appeal

1. The respondent requested that the appeal be rejected as inadmissible. It argued that the appellant had failed to substantiate its reasoning why the contested decision was erroneous and had simply repeated the arguments brought forward during the opposition proceedings.

2. The board notes that the appellant has submitted arguments explaining why, in its view, the decision was erroneous. Although the statement of grounds of appeal may contain arguments identical to those raised in opposition proceedings, it nevertheless addresses the reasons that led the opposition division to reject the opposition.

3. Accordingly, the board concludes that the statement setting out the grounds of appeal meets the requirements of Rule 99(2) EPC and that the appeal is admissible.

Main request (patent as granted)

Sufficiency (Article 100(b) EPC)

4. The opposition division held that the patent as granted disclosed the invention in a manner sufficiently clear and complete for it to be carried out by a skilled person. The division found that claim 1 contained all the necessary components and their respective amounts. Furthermore, it specified that the mixture was to be

brought to a certain temperature, such that *"heating [...] at"* included maintaining at or adjusting the mixture to that temperature.

5. The opposition division further referred to the examples and concluded that the patent contained at least one way of carrying out the invention. In contrast, the appellant's comparative data did not demonstrate that the teaching of the patent could not be put into practice.

6. The appellant contested these findings. It submitted that none of the examples was covered by claim 1 because the claim required that all compounds be added simultaneously and that a heating step be performed. In the examples, the compounds were not added simultaneously. Moreover, the compounds were heated prior to being mixed and then held at a temperature in the claimed range, this not amounting to a heating step of the mixture as required by claim 1. Accordingly, the skilled person was forced to modify the examples substantially without any guidance, in particular with respect to the heating step. The appellant further submitted, *inter alia*, by reference to document D3, that the examples failed to demonstrate that the claimed process could be carried out over the whole breadth of the claim, in particular as regards the preparation of powdery formulations and the identification of suitable component types or combinations. Finally, the appellant submitted that the claimed method was not suitable for producing powder formulations across the full range of possible peroxides.

6.1 For the following reasons, the board is not convinced by the appellant's arguments.

6.1.1 The claimed method comprises the two steps of:

(a) preparing a reaction mixture
(b) heating the mixture at a temperature in the range of 5-50°C

6.1.2 Concerning the argument that the examples are not covered by claim 1, the question arises of how claim 1 is to be construed. It is clear from the wording of claim 1 that preparing a reaction mixture as set out in step (a) does not require the simultaneous addition of all compounds of the reaction mixture but also encompasses adding the ingredients one after the other. This is confirmed by the description of the patent (see G 1/24, which also applies to claim construction for the purposes of assessing sufficiency of disclosure, and T 243/23, Reasons 2). Reference is made to paragraph [0039], which states that the ingredients can be added in any order. Nor does step (b) require increasing the temperature of the reaction mixture from a first temperature to a second temperature but also encompasses holding the mixture at a temperature within the claimed range. This is evident from the wording of step (b) alone (see "*heating [...] at a temperature*", emphasis added) and is confirmed by the examples of the patent. The description does not contain any indication that the examples according to the invention should not be covered by the claims.

Thus, claim 1 encompasses the examples of the patent, contrary to what the appellant alleges.

For completeness, the board also observes that the

above claim construction corresponds to the one adopted by the appellant when comparing the claimed process to the one disclosed in Example 1 of D1. Also there, the ingredients are not added simultaneously, and the mixture is held at a temperature falling within the claimed range, and the appellant argued that the only distinguishing features over D1 were the amount of acid chloride and the amount of surfactant (see point 9 below).

6.1.3 Although some compounds are broadly defined, the description provides further details, e.g. with respect to the acid chlorides and chloroformates, alkali metal hydroxides, phlegmatizers, surfactants, solvents and further potential additives, as well as the temperature at which the reaction has to be conducted (see paragraphs [0017], [0018], [0021] to [0023], [0025] to [0028], [0029] to [0038] and [0046]). The description also discloses the mixing step (see paragraphs [0039] to [0045]), the heating step (see paragraphs [0046] to [0047]), the workup (see paragraphs [0048] to [0052]) and several examples showing that a powdery organic peroxide can be obtained.

6.1.4 The appellant argued that not all components could be present simultaneously because some reacted instantly. However, claim 1 does not require simultaneous addition as set out above, and the description teaches workable procedures.

6.1.5 The appellant further submitted that heating as the last step did not always yield a powder due to the presence of water and organic solvents and that filtration and drying could not be applied to all peroxides. The board notes that adapting purification procedures falls within the skilled person's general

technical skills.

6.1.6 As regards combinations of solvent and phlegmatizer, the description provides sufficient guidance for the skilled person to select appropriate combinations, even if not all combinations yield a powder. The skilled person is not obliged to follow the teaching of document D3 (Example 4) and obtain a liquid composition.

6.1.7 The appellant further submitted that the definition of several components of the mixture was unduly vague, leaving the skilled person in doubt as to the compounds to be used. The board, however, considers the information in the description to provide sufficient guidance.

6.1.8 The board therefore concludes that the main request meets the requirements of Article 83 EPC.

Inventive step (Articles 100(a) and 56 EPC)

7. The opposition division considered the claimed process inventive over both D1 and D2.

8. The opposition division identified, as distinguishing features over Example 1 of D1, the amounts of benzoyl chloride and alkylbenzenesulfonate. It found that these differences resulted in an improved yield, a reduction in dust owing to a more favourable particle size distribution and reduced foaming. On that basis, it accepted that the claimed process credibly solved the objective technical problem of providing an improved process across the entire scope claimed. Furthermore, it concluded that the claimed combination of features was not suggested by D1.

Starting from D2 as the closest prior art, the opposition division identified the nature of the phlegmatizer as the distinguishing feature. It held that the skilled person would have selected one of the alternative phlegmatizers disclosed in D2, rather than one falling within the scope of claim 1 of the contested patent. On that basis, it concluded that the claimed process involved an inventive step over D2.

9. The appellant contested these conclusions while agreeing with the opposition division in taking Example 1 of D1 as the starting point. It also concurred that the claimed process differed from D1 in the amount of acid chloride, benzoyl chloride in D1 (10–25 wt% instead of 9.4 wt%), and in the amount of surfactant, sodium alkylbenzene sulfonate in D1 (0.002–0.20 wt% instead of 0.6 wt%). The appellant argued that the skilled person would routinely adjust these amounts within certain limits, in particular by reducing the surfactant content in the presence of foaming. In its view, such minor variations would not lead to any noticeable technical effect, such that the objective technical problem was merely the provision of an alternative to D1.

The appellant further argued that Comparative Example C of the contested patent did not demonstrate any technical effect of the claimed process. Although presented as being comparative to Example 1 of D1, that example employed a different phlegmatizer, namely ethylene glycol dibenzoate (EGDB) instead of glyceryl tribenzoate (GTB), and differed in the amounts of certain components, in particular the amount of benzoyl chloride (4.1 wt% in Comparative Example C as compared with 9.4 wt% in Example 1 of D1).

The appellant further argued that D1 did not disclose any issues related to foaming or filtration and that the process of Example 1 yielded the products in very good yield. It also submitted that the examples of the contested patent differed from Comparative Example C in several further aspects, including the presence of a peroxide stabiliser and pH control, such that no meaningful comparison could be made. For these reasons, Comparative Example C did not render a technical effect over D1 credible.

Finally, referring to document D8, the appellant argued that any alleged technical effect was, in any event, not demonstrated across the entire scope of claim 1, especially with regard to the type and amount of surfactant, in the absence of magnesium sulfate and a defined pH. It therefore concluded that the objective technical problem was merely the provision of an alternative process, the claimed solution of which was obvious in view of Example 1 of D1.

10. The appellant further argued starting from the example of D2 as the closest prior art. It identified the nature of the phlegmatizer as the sole distinguishing feature, D2 disclosing dicyclohexyl phthalate, while the amount of acid chloride was considered to fall within the margin of measurement accuracy (9.5 wt% in D2 versus 10 wt% in claim 1). According to the appellant, phthalates were known to raise health concerns, such that the skilled person would have replaced dicyclohexyl phthalate with a less toxic alternative, for example, one of the compounds disclosed in D1 (page 2, lines 1 to 10) or D3 (claims 4 and 5). It concluded that the skilled person would thereby arrive at the claimed process in an obvious

manner.

11. The board comes to the following conclusions.

11.1 The contested patent relates to a process for the preparation of powdery organic peroxide formulations and addresses the problems of foaming, dusting and difficulties in filtration encountered in conventional methods (see paragraphs [0013] and [0026]).

Document D1 as the closest prior art

11.2 Document D1 relates to powdery peroxide preparations and addresses safety issues associated with the handling of such compounds (page 1, lines 32 to 34). It further refers to problems of solubility and pourability (page 2, lines 8 to 10; page 3, lines 4 to 12). Example 1 of D1 discloses a process for preparing an organic peroxide formulation in the form of fine granules.

Distinguishing features

11.3 It was undisputed that the method of claim 1 differs from that of Example 1 of D1 in the amount of acid chloride (10–25 wt% in claim 1 versus 9.4 wt% in D1) and in the amount of surfactant (0.002–0.20 wt% in claim 1 versus 0.6 wt% sodium alkylbenzenesulfonate in D1). The board sees no reason to deviate from this assessment.

Technical effect

11.4 The parties disagreed on the technical effect arising from these differences. The respondent relied on Comparative Example C of the contested patent, whereas

the appellant additionally referred to document D8.

11.5 The board notes that the process of Comparative Example C of the contested patent differs from the claimed process in the amount of surfactant used, namely 0.6 wt% instead of 0.002-0.20 wt%. This was undisputed.

11.6 As regards the low amount of 71 g of benzoyl chloride indicated for Comparative Example C (first line of paragraph [0075]), the respondent submitted that this was a typographical error since such an amount would not result from scaling the quantities of Example 1 of D1 to a 1-litre process as expressly stated in paragraph [0073] of the patent. It argued that the correct value should be 171 g. The board finds this explanation convincing and therefore concludes that the amount of benzoyl chloride does not constitute a distinguishing feature between Comparative Example C and the claimed process.

11.7 It was undisputed that Comparative Example C resulted in a less favourable particle size distribution, characterised by a higher proportion of particles below 100 microns, than the examples of the contested patent falling within the scope of claim 1. It was further undisputed that this adversely affected filtration. Moreover, it was common ground that Comparative Example C gave lower yields and greater foaming (see Table 2; paragraphs [0075] and [0076] of the patent).

11.8 The appellant argued that Comparative Example C did not correspond to Example 1 of D1, with the consequence that no meaningful comparison could be made with the closest prior art. No technical effect could be attributed to the difference in surfactant amount. It

further submitted that Comparative Examples A and B of the contested patent were likewise not suitable as they did not demonstrate that any technical effect was solely due to the presence of a defined amount of surfactant.

11.9 This is not convincing. It is correct that Comparative Example C uses EGDB instead of GTB as the phlegmatizer. However, as submitted by the respondent, both phlegmatizers lead to similar, though not identical, results (see Examples 1 and 8; Table 2 of the patent). In these examples, which differ only in the nature of the phlegmatizer, the yield (92.2% versus 89.5%) and the proportion of fines (0.4 wt% versus 0.9 wt%) are comparable, in particular when contrasted with Comparative Example C. Thus, while the influence of the type of phlegmatizer on the technical effect is not negligible, it is not credible that the improvement of the examples according to claim 1 over Comparative Example C is mainly due to the change in phlegmatizer.

11.10 It is also correct that Comparative Example C does not include magnesium sulfate, whereas the examples according to the claimed process employ this stabiliser. The appellant submitted that, in the absence of this component, results comparable to those of Examples 1 and 8 could not be expected. It further pointed to Example 4 of the patent, in which foaming was observed in the absence of magnesium sulfate.

11.11 However, Example 1 and Comparative Examples A and B of the patent show that the presence or absence of surfactant and solvent has a direct impact on particle size distribution, foaming, yield and solubility (paragraphs [0062] and [0063]). This supports the respondent's submission that these effects are at least

in part attributable to the surfactant and not solely to the presence or absence of magnesium sulfate or to the nature of the phlegmatizer.

11.12 The appellant further relied on document D8 to argue that the presence of magnesium sulfate, as well as pH control, were essential for achieving the alleged technical effect. In its view, since these features were not required by claim 1, it was not credible that any technical effect was achieved across the entire scope of the claim.

11.13 The respondent acknowledged that the role of magnesium sulfate and its influence on the alleged technical effects had been addressed during the opposition proceedings, whereas the relevance of pH had not. It therefore requested that document D8, as well as the appellant's arguments based on pH, not be admitted into the appeal proceedings.

11.14 The board observes that document D8 was filed with the statement setting out the grounds of appeal and contains Experiments 5, 6 and 7. Experiment 5 is intended to reproduce Example 1 of the contested patent, while Experiments 6 and 7 are comparative, differing from Experiment 5 in that magnesium sulfate is omitted (Experiment 6) or that no additional sodium hydroxide is added to control the pH (Experiment 7).

The data relating to magnesium sulfate (Experiment 6) substantiate an argument made during the opposition proceedings. The board therefore admits this part of the appellant's submissions, namely Experiments 5 and 6, into the appeal proceedings (Article 12(4) RPBA).

In contrast, Experiment 7 and the corresponding

arguments concerning pH were neither part of the opposition proceedings nor justified by the circumstances of the appeal case. The board therefore does not admit these submissions (Article 12(4) and (6) RPBA).

11.15 However, the appellant's arguments concerning magnesium sulfate are not convincing. While the presence of magnesium sulfate may indeed contribute to certain technical effects, such as reducing foaming, this does not call into question the finding that the improvements discussed above are not attributable to the difference in surfactant amount. In view of the data of Comparative Example C, it appears more likely than not that the amount of surfactant is a decisive factor for achieving a more favourable particle size distribution (see Table 2 of the patent).

11.16 In summary, the board is satisfied that a lower amount of surfactant gives rise to a technical effect, namely a reduced proportion of particles below 100 microns and diminished foaming (see Table 2, Comparative Example C). It is further credible that this effect, as also reflected in paragraph [0026] of the patent, is achieved over D1.

Objective technical problem

11.17 The objective technical problem is thus to be formulated as the provision of a method for the preparation of powdery organic peroxide formulation which is improved in terms of particle size distribution and foaming.

Solution to the technical problem

11.18 According to claim 1 of the main request, this problem is solved by a process for preparing a powdery organic peroxide formulation comprising the step of preparing a mixture containing 0.002–0.20 wt% of a surfactant. The board is satisfied that this solution effectively solves the stated technical problem.

Non-obviousness of the solution

11.19 The prior art does not suggest reducing the amount of surfactant in Example 1 of D1 from 0.6 wt% to a value within the range of 0.002–0.20 wt% to achieve improved particle size distribution and reduced foaming during the reaction. For these reasons, the subject-matter of claim 1 involves an inventive step over D1 as the closest prior art.

Document D2 as the closest prior art

11.20 Document D2 likewise represents a suitable starting point. It relates to a process for the preparation of powdery organic peroxide compositions, in particular from the same starting materials as used in the examples of the contested patent, namely benzoyl chloride and hydrogen peroxide (title; page 1, first paragraph). D2 aims to provide a simplified process and discloses a one-pot conversion of acid chloride and hydrogen peroxide in the presence of a phlegmatizer. In this context, phthalic acid esters, water-insoluble phosphoric acid esters and silicone oils are proposed (claim 1).

Distinguishing feature

11.21 Starting from the example of D2 as the closest prior art, it is undisputed that the claimed process differs

in the nature of the phlegmatizer. D2 uses dicyclohexyl phthalate, whereas claim 1 requires a phlegmatizer selected from benzoates or toluates.

The board further notes that the amount of acid chloride in the example of D2 (9.5 wt%) falls within the margin of measurement accuracy of the range defined in claim 1 (10–25 wt%), such that no further distinguishing feature can be identified in this respect.

Technical effect

11.22 As regards the technical effect associated with this distinguishing feature, the parties essentially agreed that the use of non-phthalate phlegmatizers may reduce health-related risks. However, no evidence on file demonstrates that the choice of such phlegmatizers leads to an improvement in particle size distribution, yield or foaming behaviour over D2.

Objective technical problem

11.23 The objective technical problem is therefore to be formulated as the provision of an alternative process for the preparation of a powdery organic peroxide formulation, in particular with a less hazardous phlegmatizer.

Solution to the technical problem

11.24 According to claim 1 of the main request, this problem is solved by a process for preparing a powdery organic peroxide formulation comprising the step of preparing a mixture containing 1-25 wt% of a phlegmatizer selected from the group consisting of ethylene glycol

dibenzoate, phenyl benzoate, trimethylol propane tribenzoate, glyceryl tribenzoate, ethylene glycol ditoluate, 1,3-propanediol ditoluate, ethylene glycol 4-tert-butylbenzoate, ethylene glycol monobenzoate monotoluate, 2,3-butanediol dibenzoate, 4-methylphenyl benzoate acid ester, trimethylolpropane dibenzoate and combinations of these. The board is satisfied that this solution effectively solves the stated technical problem.

Obviousness of the solution

11.25 D2 itself teaches that phthalic acid esters used as phlegmatizers may be replaced by other classes of phlegmatizers, such as phosphoric acid esters or silicone oils, without suggesting any particular technical effect linked to this choice.

In this context, and in view of the commonly known concerns associated with phthalates, the skilled person would have been motivated to replace the phthalate disclosed in D2 with a less hazardous alternative. Suitable alternative phlegmatizers, including benzoate derivatives such as glyceryl tribenzoate, were known from the prior art, for example from D1, and would have been considered straightforward substitutes.

The selection of a benzoate or toluate phlegmatizer as defined in claim 1 therefore represents an obvious choice within the general teaching of the prior art. Consequently, the subject-matter of claim 1 does not involve an inventive step when starting from D2 as the closest prior art.

11.26 For these reasons, the provision of a process according to claim 1 of the main request is not based on an

inventive step considering the disclosure of document D2 as the closest prior art in combination with document D1. The main request is therefore not allowable (Article 56 EPC).

Auxiliary request IV

Amendments (Article 123(2) EPC)

12. Claim 1 of auxiliary request IV differs from claim 1 of the main request in that the amount of surfactant in step (a) is limited to 0.002–0.**0**20 wt% instead of 0.002–0.20 wt%, thereby further restricting the claimed range.

13. The board is satisfied that this amendment is directly and unambiguously derivable from the application as filed (page 5, lines 19 to 22) and therefore complies with the requirements of Article 123(2) EPC. This was not in dispute.

Inventive step (Articles 100(a) and 56 EPC)

14. The appellant did not advance any further arguments in relation to the restricted surfactant range.

15. For the same reasons as set out above for the main request, the board concludes that the subject-matter of claim 1 of auxiliary request IV involves an inventive step when starting from D1 as the closest prior art.

16. The board concludes that the claimed process is also based on an inventive step starting from the disclosure of document D2 as the closest prior art. The reasons are as follows.

16.1 In comparison with the example of D2, the subject-matter of claim 1 further differs in that the maximum amount of surfactant (0.002–0.020 wt%) is lower than that disclosed in D2 (0.032 wt%, see the table on page 17 of the statement setting out the grounds of appeal). This was undisputed.

16.2 As regards the technical effect associated with this further distinguishing feature, the board is satisfied that the reduction of the surfactant content contributes to the improvements identified above, in particular a more favourable particle size distribution, reduced foaming and improved filtration behaviour.

16.3 The objective technical problem is therefore the provision of an improved process for preparing a powdery organic peroxide formulation.

16.4 Document D2 does not contain any teaching that would prompt the skilled person to reduce the amount of surfactant employed in its example, let alone to a value below that disclosed in the general part of D2. D2 merely indicates that the use of a surfactant may be "*useful*", without providing any guidance as to suitable amounts or their influence on the properties of the resulting product.

16.5 Nor is there any indication in the prior art that lowering the surfactant content to the claimed range would lead to the observed improvements. On the contrary, in the absence of such teaching, the skilled person would have had no motivation to reduce the surfactant content below the value used in D2.

17. The subject-matter of claim 1 of auxiliary request IV therefore involves an inventive step when starting from D2 as the closest prior art (Article 56 EPC).

Adapted description

18. The respondent has adapted the description to the claim set according to auxiliary request IV. The appellant has not objected. The board also sees no reasons to object.

Conclusion

19. Since auxiliary request IV meets the requirements of Article 56 EPC, the decision under appeal is to be set aside, and the patent is to be maintained on the basis of auxiliary request IV.

Order

For these reasons it is decided that:

- The decision under appeal is set aside.
- The case is remitted to the opposition division with the order to maintain the patent in amended form on the basis of the following documents:

Claims: claims 1 to 12 of auxiliary request IV filed with the patentee's reply to the notice of opposition

Description: paragraphs 1 to 84 as filed in the oral proceedings before the board

The Registrar: The Chairman:

K. Götz-Wein A. Haderlein

Decision electronically authenticated