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D E C I S I O N
of 25 April 2002

Case Number: T 0115/98 - 3.3.6

Application Number: 90312779.3

Publication Number: 0430603

IPC: C11D 1/02

Language of the proceedings: EN

Title of invention:
Detergent composition

Patentee:
UNILEVER PLC, et al

Opponent:
Henkel Kommanditgesellschaft auf Aktien
PROCTER & GAMBLE E.T.C.

Headword:
Particulate filler/UNILEVER

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Auxiliary requests 8 to 17 - not admissible"
"Novelty (main and auxiliary requests 1 to 7) - yes"
"Inventive step (main and auxiliary requests 1 to 7) - no:
commercially available material to be used as first choice
because of its known properties"

Decisions cited:
T 0298/93; T 0506/95

Catchword:

-



Case Number: T 0115/98 - 3.3.6

D E C I S I O N
of the Technical Board of Appeal 3.3.6
of 25 April 2002

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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 19 December 1997
concerning maintenance of the European patent
No. 0 430 603 in amended form.

Composition of the Board:

Chairman: G. Dischinger-Hoeppler
Members: L. Li Voti
C. Rennie-Smith

Summary of Facts and Submissions

- I. The present appeal is from the interlocutory decision of the Opposition Division to maintain in amended form European patent No. 0 430 603 relating to a particulate detergent composition.
- II. Two notices of opposition were filed against the patent, wherein Opponents 01 and 02 both sought revocation of the patent inter alia on the grounds of Article 100(a) EPC, in particular because of the alleged lack of both novelty and inventive step of the claimed subject-matter.

The oppositions were based inter alia upon the following documents:

- (1)= GB-A-1437076
- (1')= DE-A-2340915 corresponding to (1)
- (1a)= Product Information "Spezialsilikas - Typen und Anwendungsgebiete" by Crosfield Chemicals, 1984
- (1b)= Technical Publication No. 26 by Crosfield Chemicals, 1975
- (2)= CS-B-216618 and its German translation designated **2a**
- (3)= CS-B-226226 and its German translation designated **3a**
- (18)= BS 1795:1976, ISO 3262 - 1975 "Specification for

Extenders for paints".

III. In its decision, the Opposition Division found that

- the main request and the first to fourth auxiliary requests did not comply with the requirements of the EPC;
- however, the claimed invention and the patent in suit, as amended in the Patent Proprietors' fifth auxiliary request, fulfilled the patentability requirements of the EPC and in particular the claimed subject-matter involved an inventive step over document (1).

IV. Appeals were filed against this decision by both Opponent 01 and the Patent Proprietors. Although these parties are Respondents to each other's appeals, for convenience the Proprietors are referred to herein as "the Appellants", Opponent 01 as "Respondent 01" and the non-appealing Opponent 02 as "Respondent 02".

The Appellants filed, with their statement of grounds of appeal and a letter dated 20 November 1998, a main request and seven auxiliary requests, the claims of the main request corresponding to those of the first auxiliary request before the Opposition Division and the claims of the seventh auxiliary request corresponding to those considered in the appealed decision to comply with the requirements of the EPC.

Independent Claims 1, 2 and 6 of the main request were as follows:

- "1. A particulate detergent mixture comprising

(i) particles which contain at least 55% by weight of anionic detergent active which is any of linear and branched alkylbenzene sulphonates, alkane sulphonates, secondary alcohol sulphates, primary alcohol sulphates, alpha olefin sulphonates, alkyl ether sulphates, fatty acyl ester sulphonates, and mixtures of these, and also contain a particulate filler with an oil absorption value of at least 100ml/100g, this filler being distributed within the particles of the composition in intimate mixture with said detergent active, and the weight ratio of the filler to the anionic detergent active lying in the range from 1:10 to 1:1, and

(ii) other solid particulate material."

- "2. A particulate detergent mixture comprising

(i) particles which contain at least 30% by weight of anionic detergent active and also contain a particulate filler with an oil absorption value of at least 200ml/100g, this filler being distributed within the particles of the composition in intimate mixture with said detergent active, and the weight ratio of the filler to the anionic detergent active lying in the range from 1:10 to 1:1, and

(ii) other solid particulate material."

- "6. A process of preparing a particulate detergent mixture which process comprises

(i) preparing a particulate composition by neutralising an acid form of an anionic detergent active to form a fluid or semi-solid composition containing anionic detergent active and incorporating a

particulate filler therein so that the filler is intimately mixed with the anionic detergent active, said particulate filler having an oil absorption value in excess of 100ml/100grams, and forming the resultant mixture into a particulate composition with the filler distributed within the particles of the composition, the amounts of anionic detergent active and filler being such that the composition contains at least 30 wt% of anionic detergent active and has a weight ratio of filler to anionic detergent active ranging from 1:10 to 1:1, and

(ii) mixing the said composition with other solid particulate material."

The first auxiliary request differed from the main request insofar as the oil absorption value of the particulate filler in claim 6 had been raised to **in excess of 200 ml/100 g** and it contained **an additional independent process claim 7** reading:

- "7. A process of preparing a particulate detergent mixture which process comprises

(i) preparing a particulate composition by neutralising the acid form of anionic detergent active with an alkali metal carbonate salt to form a semi-solid composition containing the neutralised detergent active, adding a particulate filler to the said semi-solid composition, so that the filler is intimately mixed with the neutralised anionic detergent active, said particulate filler having an oil absorption value in excess of 100ml/100grams, allowing the resulting mixture to harden, and comminuting it to form a particulate composition with the filler distributed

within the particles of the composition, the amounts of anionic detergent active and filler being such that the composition contains at least 30 wt% of anionic detergent active and has a weight ratio of filler to anionic detergent active ranging from 1:10 to 1:1, and

(ii) mixing the said composition with other solid particulate material."

The second auxiliary request corresponded to the first one **without the additional process claim 7**.

The third auxiliary request differed from the main request insofar as the oil absorption value of the particulate filler in claim 1 had been raised to **at least 150 ml/100 g** and claim 2 **specified the anionic surfactants** as in claim 1.

The fourth auxiliary request corresponded to the third one with the oil absorption value of the particulate filler in process claim 6 raised to **in excess of 200 ml/100g** and with an **additional process claim 7** as in the first auxiliary request.

The fifth auxiliary request corresponded to the third one **without claim 1 of that request** so that independent claims 2 and 6 of that request were renumbered as claims 1 and 5.

The sixth auxiliary request corresponded to the fifth one with the oil absorption value of the particulate filler in process claim 5 raised to **in excess of 200 ml/100g** and with an **additional process claim 6** corresponding to claim 7 of the first auxiliary

request.

The seventh auxiliary request corresponded to the third auxiliary request with the oil absorption value of the particulate filler in process claim 6 raised to **in excess of 200 ml/100 g**.

All these requests were accompanied by dependent claims relating to specific embodiments of the claimed products or process.

- V. Subsequent to a communication by the Board dated 15 June 2001, suggesting documents (2) or (3) as possible starting points for the assessment of inventive step of the claimed subject-matter, the Appellants filed with their letter of 20 March 2002 English translations of documents (2) and (3), herein designated **(2b)** and **(3b)**, respectively.

The Appellants also filed an amended main request, amended first to seventh auxiliary requests and ten additional auxiliary requests 8 to 17, which contained some claims with the upper limit of the weight ratio of particulate filler to anionic detergent active modified from 1:1 **to 2:3**. This amendment was contained, for example, in the following claims of the main and first to seventh auxiliary requests:

- claim 1 of the fifth and sixth auxiliary requests;
- claim 2 of the main request and of the first to fourth and seventh auxiliary requests;
- claim 5 of the fifth and sixth auxiliary requests;

- claim 6 of the main request and of the first to fourth, sixth and seventh auxiliary requests;
- claim 7 of the first and fourth auxiliary requests.

According to the Appellants' written submissions all these requests were filed in order to limit the claimed subject-matter over Example 2 of document (3).

VI. In the oral proceedings held before the Board on 25 April 2002 the eighth to seventeenth auxiliary requests, filed with the Appellants' letter of 20 March 2002, were held to be inadmissible. Following an objection raised by Respondent 01, the Appellants further amended their main request and first to fourth and seventh auxiliary requests by modifying from 1:1 to **2:3** the upper limit of the weight ratio of filler to anionic detergent active in claim 1 of all these requests.

VII. The Appellants' arguments with regard to the patentability of the claimed subject-matter submitted in writing and at the oral proceedings can be summarized as follows:

- even though document (1) discloses detergent compositions similar to those claimed in the patent in suit and cites a silica having an oil absorption value above 200 ml/100 g (Gasil 23) as a possible absorbent material, a multiple selection from the teaching of this document would be necessary in order to arrive at the claimed subject-matter;
- therefore, the claimed subject-matter is novel over the cited prior art;

- document (1) does not deal with the same technical problem as the patent in suit and is therefore not a realistic starting point for assessing inventive step;
- the cited prior art does not suggest that the incorporation of limited amounts of a particulate filler of specific oil absorption value within a detergent granulate comprising high concentrations of anionic surfactants would be sufficient to provide better flow properties and less stickiness than the surface treatment of a similar granulate with a powdered absorbent material;
- therefore the claimed subject-matter involves an inventive step.

VIII. With regard to the main request the Respondents submitted in writing and at the oral proceedings *inter alia* that:

- the subject-matter of claim 2 lacked novelty in the light of the teaching of document (1);
- the subject-matter of claim 2 lacked an inventive step in the light of the teaching of document (1), which disclosed granular detergent compositions very similar to those claimed in the patent in suit and suggested the use of an absorbent material such as Gasil 23 having an oil absorption value above 200 ml/100 g;
- the subject-matter of claim 2 lacked an inventive step in the light of the teaching of documents (2) or (3);

- in particular document (2) disclosed the surface treatment of anionic surfactant particles with a hydrated silica as absorbent material and dealt with the same technical problem as that indicated in the patent in suit; it would thus have been obvious for the skilled person to incorporate the absorbent hydrated silica within the anionic surfactant particles and to use commercially available products having a high oil absorption value;
- silicas of high oil absorption value were, for example, known from documents (1a), (1b) and (18).

The Respondents' arguments as to lack of inventive step of the main request were also advanced against the auxiliary requests.

IX. The appealing Opponent 01 (**Respondent 01**) requested that the Patent Proprietors' appeal be dismissed, that the decision under appeal be set aside and that the patent be revoked.

The appealing Patent Proprietors (**Appellants**) requested that Opponent's 01 appeal be dismissed, that the decision under appeal be set aside and that the patent be maintained on the basis of its main request filed during oral proceedings or alternatively on the basis of one of its first to seventh auxiliary requests (the first to fourth and seventh filed during oral proceedings and the fifth and sixth filed with their letter of 20 March 2002).

The **Respondent 02** requested that the Patent Proprietors' appeal be dismissed.

- X. At the end of the oral proceedings, the chairman announced the decision of the Board.

Reasons for the Decision

1. *Procedural issues*

- 1.1 After the Board's communication of 15 June 2001, suggesting documents (2) or (3) as possible starting points for the assessment of the inventive step, the Appellants filed with their letter of 20 March 2002 (ie about one month before oral proceedings) an amended main request, amended first to seventh auxiliary requests and additional eighth to seventeenth auxiliary requests (see point V above). According to their written submissions these requests were introduced in order to take account of the disclosure of Example 2 of document (3).

In all these requests the upper limit of the weight ratio of particulate filler to anionic detergent active was changed from 1:1 to 2:3, changes which were easily understandable and amounted to a limitation to an embodiment already indicated as preferable in the patent in suit (page 2, line 45). They had moreover the purpose of overcoming possible objections arising from the consideration of Example 2 of document (3), which document had not yet been addressed by the other parties during the written appeal proceedings.

The main request and the first to fourth and seventh auxiliary requests were further amended during the oral proceedings (see point VI above).

1.2 Concerning the **additional** ten auxiliary requests 8 to 17, the Appellants admitted during the oral proceedings that the letter of 20 March 2002 did not explain why they had been filed so late in the proceedings.

The Appellants submitted at the oral proceedings that the twelfth and thirteenth auxiliary requests corresponded to the main and the third auxiliary requests without process claims and that the other requests corresponded to different combinations of product and process claims already disclosed in the previous requests and that, therefore, they could be easily dealt with by the Respondents.

However, the Respondents' objections to the seventh auxiliary request, ie to the claims as maintained by the opposition division, had been known to the Appellants, from Respondent 01's grounds of appeal, for more than 4 years before the oral proceedings, and no additional objections had been raised in the interim by the Respondents or the Board. It is therefore the Board's view that there was no acceptable reason for the filing of these **additional** requests at such a late stage of the procedure. Moreover, in the absence of any reason for the late filing, it was not possible for the Respondents to prepare arguments as to their admissibility in advance of the oral proceedings.

For these reasons the Board holds these belated auxiliary requests to be inadmissible.

1.3 By comparison, amendments of previously filed requests made at a late stage of the proceedings may be admissible, provided they are justified in the

particular circumstances of the case.

With regard to the amended main and first to seventh auxiliary requests, these were modifications of the requests filed with the grounds of appeal filed either to overcome possible objections arising from the consideration of Example 2 of document (3) (which had not yet been discussed in writing during the appeal proceedings by the other parties) or to take account of an objection raised by the Respondents for the first time during the oral proceedings, as to an inconsistency in the wording of the claims comprising a weight ratio of filler to anionic surfactant of 1:1 together with an anionic surfactant concentration of at least 55% by weight.

Therefore, these amended requests, even though belated, amounted to a fair attempt by the Appellants to defend their patent in response to objections which either only arose late in the proceedings or which they themselves anticipated.

Moreover, none of the amendments to these requests led to any substantial change in the subject-matter of the proceedings or needed lengthy consideration by the other parties.

Accordingly, the Board finds these requests admissible.

2. *Articles 123 and 83 EPC: main and first to seventh auxiliary requests*

The Board is satisfied that the amended claims according to the main and the first to seventh auxiliary requests comply with the requirements of

Articles 123 EPC and that the invention to which the claimed subject-matter relates is sufficiently disclosed.

This has not been contested by the Respondents and no further comment on these matters is necessary.

3. *Novelty of main request and first to seventh auxiliary requests*

3.1 Novelty of the subject-matter of claim 2 (which also forms the subject-matter of claim 2 of the first and second auxiliary requests) has been contested in view of document (1) disclosing a granular composition comprising anionic detergent actives and an inorganic absorbent material which can be silica, silicate or aluminosilicate (page 1, lines 31 to 36 and 81 to 90). Moreover, lines 38 to 40 on page 1 of this document read: "**Other absorbents are china clay, Neosil (a precipitated silica) and Gasil 23 (a precipitated silica gel)**".

As shown in Table 2 of document (1a), and as accepted by all the parties during the written proceedings, Gasil 23 is the only particulate silica specifically disclosed in document (1) having an oil absorption value of above 200 ml/100 g.

Document (1) discloses further that preferred formulations comprise 0 to 50% by weight of alkali metal soap, 5 to 30% by weight of absorbent material and 10 to 50% by weight of non-soap anionic surfactant (page 1, lines 57 to 66), the upper limit of anionic surfactants thus matching the concentration of at least 30% by weight required in claim 2 of the main request

of the patent in suit.

Finally, the illustrative examples on page 2, lines 39 to 49 of this document disclose a formulation comprising more than 30% by weight of anionic surfactants and having a weight ratio of absorbent material to anionic detergent active between 1:2 and 1:3.5, features which are in accordance with claim 2 of the main request of the attacked patent. However, the absorbent materials used in these examples have an oil absorption value below 200 ml/100 g as accepted by all parties and shown in document (1b) for "Alusil N" (page 7) and in document (18) for "china clay" (page 16).

- 3.2 The Respondents have argued that document (1), citing Gasil 23 as absorbent material, can also be seen as disclosing its use as a possible alternative to the absorbents specifically indicated in the examples or as an absorbent in the preferred formulations of page 1, lines 58 to 66. Therefore, this document discloses the use of Gasil 23 in combination with all the other features of claim 2 of the main request.

However, it is the Board's opinion that document (1), as explained above under point 3.1, teaches the use of an absorbent material selected from the classes of silicas, silicates and aluminosilicates independently of its oil absorption capacity. The words "**Other absorbents are china clay, Neosil (a precipitated silica) and Gasil 23 (a precipitated silica gel)**" (page 1, lines 38 to 40) do not specify Gasil 23 as a preferred material but just as an example of a sub-class of materials falling within the general classes outlined in the preceding lines 35 and 36, ie

silicas, silicates and aluminosilicates.

Therefore document (1) does not teach use of Gasil 23 in the illustrative examples instead of the absorbent materials therein disclosed or its use in combination with anionic surfactants in amounts corresponding to the upper limit of the preferred formulations of page 1, lines 57 to 66, or in amounts suitable for complying with the weight ratio of particulate absorbent filler to anionic detergent active required in claim 2 of the patent in suit.

- 3.3 The Respondents have also argued that, while document (1) specified the aluminosilicate of Example C to be Alusil N, ie a material having an oil absorption value of less than 200 ml/100 g , the corresponding German document (1') referred in its version of this example to an aluminosilicate in general. Therefore this example would implicitly encompass any aluminosilicate commercially available at the priority date of the patent in suit, which material could also have an oil absorption value above 200 ml/100 g as known from document (18) (page 16).

However, the absence of any indication in document (1') of a suitable oil absorption value for the disclosed absorbent materials, indicates that this document does not teach any use of an aluminosilicate having a specific oil absorption value together with the specific features of Example C and therefore this objection of the Respondents must fail.

- 3.4 Therefore the Board finds the subject-matter of claim 2 of the main request to be novel over documents (1) or (1').

Further, the Board has no reason to depart from the decision of the first instance with regard to novelty of the other claims of the main request or of the auxiliary requests, the features of which had already been considered at the first instance; nor have the Respondents maintained any objections to the novelty of these claims.

Therefore the Board finds the subject-matter of all claims of the requests before it to be novel over the cited prior art. Since all requests fail on other grounds, no further details are necessary.

4. *Inventive step of the main request*

4.1 Most suitable starting point and technical problem

4.1.1 The patent in suit, and in particular the subject-matter of claim 2 of the main request, relates to a particulate detergent mixture made up of particles comprising at least 30% by weight of anionic detergent active and a particulate filler having an oil absorption value of at least 200 ml/100 g, which filler is distributed within the particles in intimate mixture with the anionic detergent active and is present at a weight ratio of filler to anionic detergent of 1:10 to 2:3, and other solid particulate material.

As explained in the patent in suit, a particulate detergent material comprising a high level of at least 30% by weight of anionic surfactants tends to be sticky and to cake together whereas products for retail sale should not be sticky but free-flowing (page 2, lines 5 to 7 and 15 to 17). The patent also explains that the prior art tried to solve this problem by applying a

powdered material to the surface of such particulate solids (page 2, lines 33 to 34).

The technical problem underlying the patent in suit can thus be defined as the provision of a detergent particulate having an amount of anionic surfactants of at least 30% by weight which has improved flow and caking resistance with respect to a similar granulate coated with a powdered material (page 2, lines 38 to 40).

- 4.1.2 The most suitable starting point for assessing inventive step is, according to the jurisprudence of the Boards of Appeal of the EPO, a document (if available) conceived for the same purpose as the claimed invention and not a document having the most features in common with the claimed subject-matter (see T 298/93, point 2.2.2 of the reasoned decision and T 506/95, point 4.1 of the reasoned decision, neither published in the OJ EPO).

Document (1), though disclosing, as mentioned in point 3.1 above, detergent particulate materials of a composition very close to those claimed, does not address explicitly the technical problem mentioned above but deals instead with the provision of sticky antiredeposition and soil release agents in a form suitable for inclusion in a powder detergent formulation (page 1, lines 10 to 13).

Document (3) deals with the problem of converting soft, liquid or pasty surfactants such as anionic detergent actives into particles without the need for an energy demanding process (see (3b), page 2, first paragraph and page 3, last paragraph).

Therefore, the Board is of the opinion that neither of these documents can be considered a suitable starting point for discussing the inventiveness of the claimed subject-matter.

Document (2), however, discloses a method for providing a non-sticky and free-flowing granular product comprising high concentrations of anionic detergent actives by admixing the anionic surfactant granules with an absorbent material; the product can be used for the preparation of detergent powders (see (2b), page 1, first paragraph and page 2, line 6 to 30).

Moreover, according to the teaching of this document, the anionic surfactant particles are enveloped by the absorbent material like hydrated silica (see (2b), page 4, first paragraph). The Board therefore agrees with the Appellants that this document is representative of the surface treatment of the prior art mentioned in the patent in suit (page 2, lines 33 to 34).

Document (2), dealing with the same technical problem indicated in the patent in suit and representative of the state of the art mentioned therein, is thus in the Board's view the most reasonable starting point for assessing inventive step.

- 4.1.3 The patent in suit shows in its comparative tests that granular products coated with a conventional flow aid, and additionally incorporating a particulate filler having a high oil absorption value of above 200 ml/100 g within the particles, are more free-flowing and less sticky than those which are only surface coated (see page 5, lines 1 to 4; Table 1 on

page 5 and Table 2 on page 6, formulations III to V vs. A; page 6, lines 20 to 22).

The Board has thus no reason to doubt that the subject-matter of claim 2 solved the technical problem mentioned above.

4.2 *Evaluation of inventive step*

4.2.1 According to the teaching of document (2) as represented in point 4.1.2 above, non-sticky and free-flowing granular products comprising high concentrations of anionic detergent actives can be prepared by coating the soft anionic surfactant particles with a material having absorbing properties such as hydrated silica at a preferred weight ratio of absorbent to anionic detergent active of 1:2 to 1:5 (see (2b) claim 1; page 1, paragraph below heading "Description"; page 2, line 6 to 30; page 3, last 6 lines; page 4, lines 1 to 6; Example 1).

A skilled person, faced with the technical problem indicated in point 4.1.1 above, would thus have looked in the prior art for suggestions directed at improving the capacity of surface coated particles to incorporate high concentrations of sticky materials such as anionic surfactants, thereby improving their free-flowing properties and reducing their tendency to cake.

Document (1) disclosed a method for providing granulates comprising high concentrations of sticky materials and precisely 10 to 50% by weight of anionic non-soap surfactants, 0 to 50% by weight of soap and 10 to 50% by weight of antiredeposition agents (page 1, lines 57 to 66). According to the teaching of this

document, the incorporation within the particles of 5 to 30% by weight of an absorbent material selected from the groups of silicas, silicates and aluminosilicates, eg hydrated silica like Gasil, was sufficient to provide dusted granulates not presenting any stickiness or tendency to agglomerate (see page 1, lines 31 to 40 and 46 to 50 and page 2, lines 18 to 23).

Therefore document (1) suggested to the skilled person the way to obtain dusted granulates comprising high concentrations of anionic surfactants and other sticky materials which were free-flowing and without a tendency to cake; this document also taught that limited amounts of an absorbent filler (5 to 30% by weight), at a weight ratio to the anionic surfactant in accordance with the patent in suit (see examples and point 3.1 above), were sufficient for achieving this result.

It would thus have been obvious to the skilled person to **distribute** the hydrated silicas used for coating the anionic surfactant particles in document (2) **within** such particles as well and in amounts and in the weight ratio to the anionic surfactants as required in the disputed claim 2, in order to improve the free-flowing characteristics and reduce the caking tendency of the particles.

- 4.2.2 The only remaining question as regards inventive step is therefore whether a skilled person would have selected an absorbent filler having an oil absorption value above 200 ml/100 g, wherein the oil absorption value indicates in the technical field of particulate fillers the capacity of such a material to absorb liquids (see eg document (1a), 10th page, paragraph

below the headline "ÖLZAHL").

The comparative tests of the patent in suit show that particles incorporating a filler with an oil absorption value above 200 ml/100 g are more free-flowing and less sticky than those incorporating a filler with an oil absorption value below 200 ml/100 g (see Examples III, IV and V vs. I or II) whilst document (1) does not draw any distinction between the former type of filler such as Gasil 23 and the latter such as Alusil N, Neosil or china clay (see point 3.1 above).

However, document (1a), a product information brochure about hydrated silicas commercially available at the priority date of the patent in suit, disclosed that the type of hydrated silicas preferred for use as absorbent had an oil absorption value above 200 (see Gasil 23D and HP 34 in Table 2), Gasil 23 being also the hydrated silica explicitly cited in document (1).

The use of a hydrated silica having such a high absorption value was thus the first choice for a skilled person, at least when seeking to achieve a maximum absorption capacity.

The Board, therefore, comes to the conclusion that the skilled person, faced with the technical problem of improving the free-flowing characteristics and reducing the caking tendency of the granulates of document (2), would have incorporated hydrated silicas within the particles as taught in document (1) and would have used as a first choice Gasil 23, ie a material having an oil absorption value above 200 ml/100 g, in the light of its known properties reported in the state of the art.

Consequently, the subject-matter of claim 2 of the main request lacks an inventive step and does not meet the requirements of Article 56 EPC.

Since this request must fail on these grounds there is no need to consider the inventive step of the other independent claims 1 or 6.

5. *Inventive step of the first and second auxiliary requests*

The subject-matter of claim 2 of the main request is also the subject-matter of claim 2 of the first and second auxiliary requests which thus fail for the same reasons as mentioned above in point 4.2.

6. *Inventive step of the third to seventh auxiliary requests*

The subject-matter of claim 2 of the third, fourth and seventh auxiliary requests, which is identical to that of claim 1 of the fifth and sixth auxiliary requests, differs from the subject-matter of claim 2 of the main request only insofar as the anionic surfactant is specified to be any of linear and branched alkylbenzene sulphonates, alkane sulphonates, secondary alcohol sulphates, primary alcohol sulphates, alpha olefin sulphonates, alkyl ether sulphates, fatty acyl ester sulphonates, and mixtures of these.

However, since anionic surfactants of this type are explicitly mentioned in documents (1) (page 1, lines 83 to 84) and (2) (see (2b), page 2, last line to page 3, line 2), and since the Appellants have not shown that any credible additional technical advantage is achieved

by their selection, the reasons in point 4.2 above also apply to these requests.

Therefore, these requests must also be dismissed for lack of an inventive step of the claimed subject-matter.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The patent is revoked.

The Registrar:

The Chairman:

G. Rauh

G. Dischinger-Höppler