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**Datasheet for the decision
of 22 October 2008**

Case Number: T 0051/06 - 3.3.06

Application Number: 97909480.2

Publication Number: 0934365

IPC: C09C 1/62

Language of the proceedings: EN

Title of invention:
Metal pigment composition

Patentee:
Silberline Limited

Opponent:
ECKART GmbH

Headword:
Milling process/SILBERLINE

Relevant legal provisions:
EPC Art. 123(2)

Relevant legal provisions (EPC 1973):
EPC Art. 83

Keyword:
"Added subject-matter (main request and first to third and eighth to eleventh auxiliary requests) - yes"
"Sufficiency of disclosure (fourth to seventh auxiliary requests) - no: insufficiently disclosed functional feature"

Decisions cited:
-

Catchword:
-



Case Number: T 0051/06 - 3.3.06

DECISION
of the Technical Board of Appeal 3.3.06
of 22 October 2008

Appellant: Silberline Limited
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Representative: Cresswell, Thomas Anthony
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Representative: Walcher, Armin
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 29 December 2005
revoking European patent No. 0934365 pursuant
to Article 102(1) EPC 1973.

Composition of the Board:

Chairman: P.-P. Bracke
Members: P. Ammendola
A. Pignatelli

Summary of Facts and Submissions

- I. This appeal is from the decision of the Opposition division to revoke the European patent No. 0 934 365 (international publication number WO 98/17731) concerning a metal flake pigment composition and the process for its preparation.
- II. The Opponent had sought revocation of the patent in suit on the grounds of lack of novelty and inventive step, insufficient disclosure and added subject-matter.
- III. In its decision the Opposition division considered, *inter alia*, that the expression "*a phosphate ester having lubricating, corrosion inhibiting and surfactant properties*" introduced into claim 1 of the then pending main request was supported by the application as originally filed and that the subject-matter of this claim encompassed two distinct aspects of the process of the invention: that based on the use of a phosphate ester additive (hereinafter "PEA") and that based on the use of a mixture of additives (hereinafter "MOA"). However, both claimed aspects lacked novelty. Since also the then pending three auxiliary requests of the Patent proprietor did not comply with the requirements of the EPC, the Opposition division revoked the patent.
- IV. The Patent proprietor (hereinafter Appellant) lodged an appeal against this decision and filed with the statement setting out the grounds of appeal twelve sets of amended claims respectively labelled as **main request and first to eleventh auxiliary requests** as well as three alternative versions of claim 4: **version 1** to be possibly combined with the main and first to third

auxiliary requests, **version 2** to be possibly combined with the fourth to seventh auxiliary requests and **version 3** to be possibly combined with the eighth to eleventh auxiliary requests. It also filed several documents in support of its arguments.

Claim 1 of the **main request** read as follows:

"1. A process for preparing a low- or non-dusting, substantially non-volatile metal flake pigment composition, said process comprising ball milling atomised metal powder in the presence of a milling fluid, together with
a phosphate ester having lubricating, corrosion inhibiting and surfactant properties, or
additives which together exhibit lubricating, corrosion inhibiting and surfactant properties wherein the additive having lubricating properties comprises ethylene oxide condensates with aliphatic alcohols or phenols, fatty acids, water insoluble plasticisers, polyethylene oxides, polyethylene glycols, polypropylene oxides, polypropylene glycols or phosphate esters;
wherein said milling fluid consists substantially of water and has a maximum content of organic solvent of 10% by volume."

Claim 1 of the **first auxiliary request** differed from that of the main request only in the additional wording at the end of the claim "*followed by removal of the drilling fluid*".

Claim 1 of the **second auxiliary request** differed from that of the first auxiliary request only in that the

wording "a maximum content of organic solvent of 10% by volume" had been replaced by "a content of organic solvent of less than 2% by volume".

Claim 1 of the **third auxiliary request** differed from that of the second auxiliary request only in that the wording "*phosphate ester; wherein said milling fluid*" had been replaced by "*phosphate esters; wherein the additive having corrosion inhibiting properties is a phosphorus-, chromium-, vanadium- or silicon- containing compound, or calcium zinc molybdate; wherein said milling fluid*".

Claim 1 of the **fourth to seventh auxiliary requests** differed respectively from claim 1 of the main request and of the first to third auxiliary requests only in that the wording "*a phosphate ester having lubricating, corrosion inhibiting and surfactant properties, or*" was no longer present.

Claim 1 of the **eighth to eleventh auxiliary requests** differed respectively from claim 1 of the main request and of the first to third auxiliary requests in that the wording "*or additives which together exhibit lubricating, corrosion inhibiting and surfactant properties wherein the additive having lubricating properties comprises ethylene oxide condensates with aliphatic alcohols or phenols, fatty acids, water insoluble plasticisers, polyethylene oxides, polyethylene glycols, polypropylene oxides, polypropylene glycols or phosphate esters;*" was no longer present. Claim 1 of the eleventh auxiliary request differed further from claim 1 of the third auxiliary request in that the wording "*properties, wherein said milling fluid*" had been replaced by

"properties, wherein the phosphate ester is an alkyl or dialkyl phosphate, with the alkyl groups containing 2 to 20 carbon atoms; wherein said milling fluid".

V. In its reply to the grounds of appeal, also enclosed with several citations, the Opponent (hereinafter Respondent) argued, *inter alia*, that the large number of the Appellant's auxiliary requests presented in an unstructured manner with the grounds of appeal amounted to an abuse of the proceedings.

VI. The Board summoned the parties to oral proceedings to be held on 22 October 2008.

VII. The Appellant filed with letter of 18 September 2008 the document

(25) = declaration of Malcolm Stock,

stating that the word "surfactant" in the patent in suit is intended to mean "a substance which, when added to an aqueous milling fluid containing a lubricant, causes the metal particles to be wetted, or in other words, to be substantially homogeneously dispersed within the milling fluid".

VIII. The Respondent in its letter of 7 October 2008 requested the admittance of document

(26) = WO 95/34593

in view of its relevance for novelty.

IX. At the oral proceedings of 22 October 2008, the Appellant replaced the sixth and seventh auxiliary requests filed with the grounds of appeal. The Respondent did not object to their introduction into the proceedings.

Claim 1 according to this amended version of the **sixth auxiliary request** filed at the oral proceedings was identical to that of the corresponding request filed with the statements setting out the grounds of appeal (see section IV).

Claim 1 according to this amended version of the **seventh auxiliary request** filed at the oral proceedings differed from claim 1 of the corresponding request filed with the statements setting out the grounds of appeal (see section IV) only in that the wording "*, or calcium zinc molybdate*" was not present.

During the hearing the Chairman also informed the Parties that the late filed document (26), whose introduction had also been objected to by the Appellant, was not admitted into the proceedings.

X. In respect of the issues relevant for this decision the Appellant argued substantially as follows.

The Appellant's requests, allegedly constituting an abuse of the proceedings, were derived in an evident manner from combinations of the characterizing features already present in the four requests considered by the Opposition division or consisted of slight modifications thereto. They had been filed with the statement setting

out the grounds of appeal that described with sufficient details their structure.

Similarly to some of the requests considered unallowable in the decision under appeal, the present group of first four requests (i.e. the main request and the first to third auxiliary requests) embraced both distinct alternative aspects of the invention: the PEA aspect and the MOA aspect. The remaining two groups of four auxiliary requests manifestly derived from the splitting of such first group of requests by limiting their subject-matter either to the MOA option (fourth to seventh auxiliary requests) or to the PEA option (eighth to eleventh auxiliary requests).

In respect of the Respondent's objection under Article 123(2) EPC to the expression "*a phosphate ester having lubricating, corrosion inhibiting and surfactant properties*" present in claim 1 of the main request, as well as in claim 1 of the first to third and eighth to eleventh auxiliary requests, the Appellant argued that such wording was based on the passage at page 13, lines 4 to 6, of the application as originally filed (hereinafter "the cited PEA passage"). In the Appellant's opinion such passage not only expressly indicated that the PEAs might have both lubricating and corrosion inhibiting properties, but necessarily implied, when read in its context, that the same compounds could also have surfactant properties. This would in particular be evident when considering that in the cited PEA passage the word "also" could only refer to the immediately preceding paragraph of the description of the application, expressly disclosing the ingredients to be used as surfactants in the claimed process.

As far as the requirement under Article 83 EPC is concerned, the Appellant was of the opinion that the patent in suit not only provided sufficient general instruction, but also contained several specific examples as to how to carry out the invention. Moreover, the skilled person reading the paragraphs [0010] and [0011] of the patent in suit as published would be aware of the prior art from which the inventors of the claimed process have started as also reflected in the preamble of claim 1 as granted. Hence, he could derive from such prior art any essential detail of the invention not explicitly mentioned in the patent in suit or undefined in the claims.

In respect of the meaning of the expression "*additives which together exhibit lubricating, corrosion inhibiting and surfactant properties*" (hereinafter "**the MOA definition**"), this expression is present in claim 1 according to the main request and to the first to seventh auxiliary requests) the Appellant argued that the skilled person would interpret such definition in view of the whole patent disclosure as indicated, for instance, also in the declaration of a technical expert filed as document (25). Accordingly, the skilled reader of the patent in suit would reasonably conclude that the additives suitable for forming the MOA defined by the above expression must provide in combination sufficient lubricating properties, corrosion inhibiting properties and surfactant properties **under the conditions occurring in the ball milling step of the process of the invention.** This would be apparent, for instance, from the explicit instruction given in paragraph [0035] that despite the fact that certain fatty acids had already been widely

used as lubricant in milling steps carried out in the presence of organic solvents, the same compounds would qualify as lubricant additives for the claimed process only if rendered active in water, e.g. by using their water soluble salts or by the presence of the surfactant.

A consequence of such interpretation would be that a skilled person could not predict whether or not a certain mixture of organic compounds would form a MOA in the sense of the invention simply on the basis of some generic common general knowledge as to the fact that the same compounds possessed one or more of the desired properties under some conditions. Instead, in the Appellant's opinion, this could be judged from the quality of the metal flake pigment compositions obtained, because only an aqueous milling fluid providing to a significant extent all the three desired properties - and, in particular, the surfactant function needed to achieve a stable suspension of the metallic particles and to allow the advantageous interaction of these particles with the other active ingredients possibly present in the aqueous milling fluid - would produce a metal flake pigment composition having optical properties comparable to those observed in the invention examples and previously exclusively obtained by using milling fluids based on organic solvents.

- XI. The Respondent argued that the filing of the main request and eleven auxiliary requests, each to be possibly combined with an alternative version of claim 4, would amount to an abuse of the proceedings, not only in view of their high number but also because of the absence of any detailed explanation in the statement

setting out the grounds of appeal of the structure justifying the requests' hierarchy.

The Respondent considered that the application as filed would disclose neither explicitly nor implicitly the possibility of using in the claimed process a PEA as defined in claim 1 of the main request, i.e. having all the three relevant properties. In particular, the portion of the description concerning the surfactants that immediately preceded the cited PEA passage, did not mention phosphate esters. Thus, the word "also" in the cited PEA passage would not necessarily refer to such immediately preceding description. On the contrary, such word as used in such passage was vague and allowed several possible interpretations, such as, for instance, that of a reference to the other properties possibly possessed by the PEAs in general or specifically to the fact that some PEAs had already been disclosed in preceding passages of the original description referring to the preferred corrosion inhibiting additives.

Furthermore, in respect of the MOA definition the Respondent maintained that the skilled person would interpret it broadly and, thus, that such expression would embrace whatever mixture of compounds known to provide to some extent lubricating, corrosion inhibiting and surfactant properties under whatever condition.

However, if the Board would be inclined to accept the Appellant's restrictive interpretation of such vague expression, then it would be apparent that the resulting vaguely defined functional feature of the invention - although possibly non-objectionable under Article 84 EPC 1973 because the same expression was already present in

claim 1 as granted - would at least imply a fundamental lack of disclosure of the patent in suit. Indeed, neither the patent in suit would disclose how to identify the occurrence of the desired properties nor would the skilled person already know how to establish their occurrence and/or how to predict which MOA would be suitable to ensure them. The Respondent acknowledged that the patent in suit contained several examples of how to carry out the invention, but argued that these would be insufficient to ensure as well the reproducibility of substantially all subject-matter claimed.

XII. The Appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of the claims according to the main request or alternatively any of the first to fifth and eighth to eleventh auxiliary requests, or the main and first to third auxiliary requests in which claim 4 is according to version 1, or the fourth to fifth auxiliary requests in which claim 4 is according to version 2, or the eighth to eleventh auxiliary requests in which claim 4 is according to version 3, these requests and the versions 1 to 3 of claim 4 as filed with the grounds of appeal, or according to the sixth or seventh auxiliary requests filed during the oral proceedings.

The Respondent requested that the appeal be dismissed.

Reasons for the decision

Admissibility of the Appellant's requests

1. The Appellant has filed with the statement setting out the grounds of appeal twelve sets of amended claims labelled as main request and first to eleventh auxiliary requests, as well as, three alternative versions of claim 4 (see above section IV of the Facts and Submissions).
- 1.1 The Respondent has objected to the introduction of the auxiliary requests because of their complexity.
- 1.2 The function of the appeal proceedings is to give a judicial decision upon the correctness of the decision given by the department of first instance. Such a review can, in principle, only be based on the reasons and requests already submitted before that department. The appealing Proprietor of the patent, unsuccessful before the opposition division, has the right to have the rejected requests reviewed by the Board of appeal (G 10/91, OJ EPO 1993, 420).

However, if he wants other requests to be considered, admission of those requests into the proceedings is a matter of the Board's discretion. The criteria to be applied in the exercise of the power of discretion are stated in Article 12(4) RPBA according to which the Board - without prejudice to its power to hold inadmissible facts, evidence or requests which could have been presented or were not admitted in the first instance proceedings - shall take into account new requests if and to the extent they relate to the

case under appeal and meet the requirements in Article 12(2) RPBA i.e. they were presented with the statement of grounds of appeal or the reply thereto. In establishing whether requests relate to the case the crucial criteria to be taken into account is whether the amendments extend the frame of discussion as determined by the decision under appeal and by the statement of the grounds of appeal.

1.3 In the present case, the requests do not extend the frame of discussion of the case because they manifestly result from minor modifications of the combinations of the same technical features already present either in the granted claims or in the amended versions thereof according to the four requests considered by the Opposition division. In particular, the fact that the number of requests filed with the grounds of appeal is appreciably higher than the number of those already considered in the decision under appeal is in substance only due to the additional presence of auxiliary requests separately directed to each the two distinct alternative aspects of the invention, i.e. the same PEA option and the MOA option that had been claimed cumulatively during the opposition proceedings.

1.4 The complexity of the new subject-matter is a criterion for the exercise of the power of discretion of the Board in case of amendment to a party's case after it has filed its grounds of appeal or reply (Article 13 RPBA).

Since the Appellant's initial requests were filed with the statement of grounds of appeal this criterion is not applicable in the present case.

1.5 The Appellant's requests filed with the statement setting out the grounds of Appeal are therefore admitted.

2. The final amended versions of the sixth and seventh auxiliary requests were filed by the Appellant at the oral proceedings before the Board and the Respondent has not objected to their admission into the proceedings.

These requests differ only marginally from the corresponding initially filed and already admitted versions thereof (see, in particular, their differences in respect of claim 1 discussed above, section IX of the Facts and Submissions) and, hence, it is apparent that these requests neither extend the frame of the discussion nor introduce appreciable complexity to the case.

Accordingly the final versions of the sixth and seventh auxiliary requests filed at the oral proceedings are also admitted.

Added subject-matter in claim 1 of the main request and of the first to third and eighth to eleventh auxiliary requests (Article 123(2) EPC).

3. The Respondent has maintained that the wording "a phosphate ester having lubricating, corrosion inhibiting and surfactant properties" present in claim 1 of the main request (see above section IV of the Facts and Submissions) violates Article 123(2) EPC. Since this wording is also present in claim 1 of the first to fifth and eighth to eleventh auxiliary requests, this objection applies to all these requests as well.

- 3.1 It is undisputed that the patent application as originally filed does not contain this expression as such.

Nevertheless, the Appellant has referred to the disclosure from page 10, line 10 to page 13, line 13 of the original description and to original claim 9 maintaining that it would imply the disclosure that phosphate esters could simultaneously display all the three required properties.

- 3.2 The Board notes that, as correctly observed by the Appellant, the original application, after having described at page 10, lines 28 to 32, the possible use of PEAs of long chain ethoxylated alcohols as preferred corrosion inhibiting additives, discloses explicitly in the cited PEA passage at page 13, lines 4 to 6, (reading: "*Phosphate esters (eg Biophos S2D) which also have lubricating and/or corrosion inhibiting properties are preferred*") that these ingredients may "also" display both lubricating and corrosion inhibiting properties. A similar teaching is also contained in the subsequent paragraph on page 13, lines 8 to 13, although limitedly to "*substituted*" PEAs, and in claim 9, although limitedly to PEAs "*having a polyethylene oxide side chain*".

Therefore, the sole question to be considered is whether or not the application as filed discloses that the PEAs that are explicitly indicated to possibly possess both lubricating and corrosion inhibiting properties, may also display surfactant properties.

3.3 In this respect the Appellant has argued that the word "also" in the cited PEA passage could only reasonably refer to the properties of the compounds disclosed in the paragraph of the description immediately preceding such passage. Since this immediately preceding paragraph (from page 12, line 14 to page 13, line 2, of the original application) describes the use of surfactants, the original application would implicitly disclose that these PEAs may possibly also have surfactant properties.

3.4 The Board notes however that, as convincingly argued by the Respondent, in the absence of an explicit reference to PEA in the immediately preceding paragraph (i.e. that describing the compounds suitable as surfactants), the word "also" in the cited PEA passage is vague. Thus, it could have been used to possibly refer in general to other properties possessed by the PEAs or it may represent a (possibly redundant) specific reminder that certain PEAs had already been disclosed among the preferred corrosion inhibiting additives in a preceding passage of the original description (i.e. at page 10, lines 28 to 32).

Hence, the skilled person reading the cited PEA passage in the original application could not directly and unambiguously derive from the word "also" that the same PEAs disclosed therein as possibly providing both lubricating and corrosion inhibiting properties, may additionally also provide surfactant properties.

3.5 The Board therefore comes to the conclusion that the wording "*a phosphate ester having lubricating, corrosion inhibiting and surfactant properties*" introduced in claim 1 of the main request as well as of the first to

third and eighth to eleventh auxiliary requests violates the requirements of Article 123(2) EPC. Hence, none of these requests is allowable already for this reason.

Sufficiency of disclosure for the subject-matter in claim 1 of the fourth to seventh auxiliary requests (Article 83 EPC 1973).

4. The Respondent has disputed the sufficiency of disclosure with regard to, *inter alia*, the **MOA definition**, i.e. the feature "*additives which together exhibit lubricating, corrosion inhibiting and surfactant properties*" as also present in each version of claim 1 according to the fourth to seventh auxiliary requests.

Each of these versions of claim 1 additionally describes a further limitation as to the MOA, in that they all require the additive having lubricating properties to comprise a chemical compound belonging to certain listed classes (see sections IV and IX of the Facts and Submissions).

A second further limitation is instead only given in claim 1 of the seventh auxiliary request that additionally identifies a list of classes of chemical compounds also for the corrosion inhibiting ingredient of the MOA (see above, sections IV and IX of the Facts and Submissions).

Since (as discussed in detail at point 4.6.4 here below) the experimental difficulties that the skilled person may encounter in attempting to identify further mixtures of ingredients according to the above-indicated MAO definition are not appreciably reduced even when taking into account these further limitations as to the classes

of chemical compounds in which to select further possible candidates for the lubricating additive or for the corrosion inhibiting additive, the following reasoning of the Board as to the sufficiency of disclosure of the MOA applies equally to claim 1 according to any of the fourth to seventh auxiliary requests.

- 4.1 According to the Appellant, the MOA definition would exclusively identify those combinations of chemical compounds that provide **during the aqueous ball milling step of the claimed process** the lubricating, corrosion inhibiting and surfactant properties necessary for achieving the level of optical properties of the final metal flake pigment composition exemplified in the invention examples, a level that had only been previously achieved in the prior art by using milling fluids based on organic solvents.
- 4.2 The Respondent has always disputed such interpretation and argued that a skilled person would rather give the broadest sense to the MAO definition, as embracing any mixture of compounds previously known to possibly display the desired properties, i.e. independently as to whether or not these ingredients in the used amounts actually provide to an appreciable extent these properties in the milling fluid of the claimed process.

However, at the oral proceedings before the Board, the Respondent has incidentally argued - during the discussion on novelty - that if the Board would be inclined to accept the Appellant's more restrictive interpretation of the MOA definition, then the patent in suit would not enable the skilled persons to carry out

any embodiment of the invention other than those disclosed in the examples.

The Chairman, after having expressly stressed that this argument amounted to an objection under Article 83 EPC, has given the floor to the Appellant for presenting its comments. However, in its reply the Appellant has presented exclusively arguments relevant to the novelty issue (i.e. by stressing that the Respondent had provided no proof that the ball-milling processes of the prior art were carried out in the presence of additives providing during these milling steps all the three relevant properties and, thus, resulting in optical properties comparable to those obtained in the invention examples).

- 4.3 It is the consistent jurisprudence of the Boards of Appeal that the issue of sufficiency of disclosure must be established by taking into account the whole of the patent disclosure.

In the opinion of the Board, the skilled reader of the disputed patent as a whole can only attribute to the above-identified expression the restrictive meaning proposed by the Appellant, i.e. that the three mandatory properties of the MOA to be used in the process of the invention define technical effects that such ingredients must produce together under the aqueous conditions present during the ball milling step of such process.

This is apparent from the several passages in the patent in suit referred to by the Appellant, for instance

- from the use of the expression "*corrosion inhibiting and milling lubricant **functions***" (see paragraph [0041] of the patent as granted published, emphasis added by the Board) as an equivalent to "*lubricating and/or corrosion inhibiting **properties***" (see e.g. paragraph [0039], emphasis added by the Board); or
- from the explicit recognition that certain fatty acids, previously widely used as lubricants in the solvent based ball milling of metal powders, would only act as lubricants in the claimed process if rendered active in the water phase (see paragraph [0035]). This latter teaching is further confirmed by the disclosure that in a preferred ball milling step the "*lubricant*" is represented by a "*mixture of a surfactant and a fatty acid*" (see paragraph [0035]).

On the contrary, the extensive interpretation of the MOA definition proposed by the Respondent would be inconsistent, for instance, with the fact that certain compounds that certainly possess the ability to reduce appreciably the surface tension of water, such as acetylenic diols or lower alcohols, are not mentioned among the possible lubricants, but rather exclusively as defoaming additives to be used in small quantities (see paragraph [0037]).

Hence, the Board concurs with the Appellant that according to the patent in suit the definition of the MOA characterising the process of claim 1 under consideration, identifies the suitable additives in terms of the technical results that such mixture must provide in the aqueous ball milling step of the process,

i.e. in terms of a **functional** definition of these ingredients.

- 4.4 According to the established jurisprudence of the Boards of Appeal the assessment of the sufficiency of disclosure under Article 83 EPC 1973 requires to consider that the protection conferred by a patent should correspond to the technical contribution to the art made by the disclosure of the invention described therein, which excludes the patent monopoly being extended to subject-matter which, after reading the patent specification, would still not be at the disposal of the skilled person.

In the case of **functional** features the available information must therefore enable the skilled person to achieve the envisaged result within the whole ambit of the claim containing the respective functional definition without undue difficulty (see the Case Law of the Boards of Appeal of the EPO, 5th Edition, II.A.6.1).

- 4.5 The Appellant's arguments in respect of sufficiency of disclosure are that, on the one hand, the patent in suit contained sufficient general instruction and several specific examples as to how to carry out the invention, and, on the other hand, a skilled reader of the patent in suit would immediately identify in the prior art cited in paragraph [0010] and [0011] referred to in the preamble of claim 1, and thus, would consider implied by such preamble any other essential detail of the invention not explicitly mentioned in the claims under consideration.

4.6 The Board concurs with the Appellant that the patent indisputably discloses several specific examples of the claimed process. Therefore, in view of the established jurisprudence of the Boards of appeal cited above, the sole point to be considered is whether or not the skilled person, on the basis of the patent disclosure and of the common general knowledge and/or, if necessary, with the help of a reasonable amount of trial and error experimentation, is able to easily identify suitable variants of the exemplified embodiments of the invention, so as to be able to perform the invention in the whole ambit of the claim.

4.6.1 The Board notes initially that the definition under consideration does not appear to be in its entirety a conventional term generally used in the technical field of ball milling.

Secondly, even though such functional feature formally amounts to a combination of the conventional terms "*lubricating properties*", "*corrosion inhibiting properties*" and "*surfactant properties*", still, for the same reasons indicated by the Appellant (see above point 4.3) when discussing the meaning to be given to the functional feature, it is apparent that the combination of these terms assumes in the context of the patent in suit a specific meaning different from that resulting from the simple juxtaposition of the corresponding conventional terms as proposed by the Respondent.

Hence, the Board concludes that the common general knowledge of the skilled person cannot possibly provide

much useful technical information as to the possible alternatives to the MOA used in the patent examples.

- 4.6.2 Moreover, the functional feature under consideration is not part of the preamble of claim 1, but a feature manifestly used to characterize the invention vis-à-vis the prior art possibly identified in the claim preamble.

Indeed, nothing in paragraphs [0010] and [0011] of the patent in suit suggests that the MOA of claim 1 under consideration had already been disclosed in the prior art.

- 4.6.3 Finally, as also implied by the words "*which together exhibit*" in the MOA definition, the three relevant properties are described in the patent in suit as mutually interconnected, not only in the sense that the same compound may simultaneously provide two of the required properties, but also in the sense that the presence of a compound possessing one of these properties may determine the functions of other ingredients as well (see above point 4.3). This is, in particular, the case of compounds, such as the fatty acids that, as indicated in the patent, are *per se* unsuitable for producing the desired lubricating properties in the ball milling step and, thus, are *per se* no possible ingredients of the MOA of the invention, but which in the presence of e.g. (an effective amount of) surfactant may become part of the lubricant additive of the invention and, thus contribute to the MOA. A similar consideration applies to the fact, implicitly suggested by the disclosure in the patent in suit as to the possible use of defoaming agents, that there may also be upper limits for the amount of surfactant in

order to ensure the achievement of the three desired properties.

4.6.4 The above considerations apply equally to each of claim 1 of the fourth to seventh auxiliary requests, because, these considerations retain their validity even when additionally taking into account the limitation in claim 1 of each of these requests as to the fact that the lubricant ingredient must belong to one of the preferred classes thereof mentioned in these claims and even the additional restriction of choice imposed for the corrosion inhibiting ingredient in claim 1 of the seventh auxiliary request.

As a matter of fact, nothing in the patent in suit suggests that whatever combination of the additives belonging to the corresponding classes of compounds disclosed as preferred in the patent and listed in these claims would necessarily possess the properties required for obtaining a MOA satisfying the functional definition thereof in these claims. On the contrary, the already mentioned interactions among these additives and possibly also with the other ingredients of the milling fluid (such as that explicitly mentioned in the patent between the surfactant and the "*fatty acids*" or the implicit teaching therein as to the possible compensation by using foam suppressors of the unacceptable foaming possibly produced by the lubricants) appear to apply also to the compounds belonging to the classes listed in these claims.

Hence, even a skilled person who would aim at reproducing variations of the invention examples encompassed within the most preferred embodiments of the

invention, such as those according to claim 1 of the seventh auxiliary request by using the preferred surfactant additives belonging to the preferred classes of additives listed in such claim, would expect that the desired properties will only be achieved when finding the right combination of additives in terms not only of their number and kind, but also depending on their absolute and relative amounts and, possibly, on the kinds and the amounts of the further ingredients of the milling fluid.

4.7 Therefore, the Board finds that insufficiency of disclosure arises from the functional definition of the MOA to be used in the milling fluid, because:

- this definition is not conventional in the relevant technical field,
- further technical information in this respect cannot possibly be found in the specific prior art acknowledged in the patent in suit,

and

- the patent specification, on the one hand, makes it clear that the achievement of the desired technical effects depends also on the possible occurrence of interactions of the additives among themselves and, possibly, also with some further components of the milling fluid, and, on the other hand, provides insufficient technical information for enabling any prediction on the likelihood of success in achieving the desired technical effects.

In the Board's opinion, a skilled person attempting to realize a variation of the invention examples according to claim 1 of any of the fourth to seventh auxiliary requests and who is confronted with an indication of a failure, e.g. because he would find that the optical properties of the obtained metal flake pigment composition are much worse than those obtained in the patent examples, would **not** know which of the further possible modifications - inclusive not only of the absolute concentrations of the ingredients used to form the MOA, but also of their number, kind and relative concentrations - would render more likely in the next attempt the achievement of a substantial improvement of the properties of the resulting metal flake pigment composition.

Hence the skilled reader of the patent in suit would face **undue difficulties** in realizing embodiments of the claimed process different from those specifically disclosed in the patent examples.

Accordingly, the Board concludes that the provided disclosure does not enable the skilled person to carry out the invention within the whole ambit of the claim under consideration.

- 4.8 Thus, the subject-matter of claim 1 according to any of the fourth to seventh auxiliary requests is found insufficiently disclosed in the patent in suit. Hence, these claims do not comply with the requirements of Article 83 EPC and, therefore, also these requests of the Appellant are not allowable already for this reason.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

C. Vodz

P.-P. Bracke