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Datasheet for the decision of 23 August 2007

Case Number: T 0663/05 - 3.3.05

Application Number: 00900732.9

Publication Number: 1161145

IPC: A01N 25/14

Language of the proceedings: EN

Title of invention:
Process for producing granules

Patentee:
Agform Ltd.

Opponents:
SIPCAM S.p.A.
Maktheshim-Agan Industries Ltd.

Headword:
Water dispersible granules/AGFORM

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 54

Keyword:
"Novelty: no; all requests"

Decisions cited:
-

Catchword:
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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0663/05 - 3.3.05

D E C I S I O N
of the Technical Board of Appeal 3.3.05
of 23 August 2007

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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 10 May 2005 revoking European patent No. 1161145 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: B. Czech
Members: J.-M. Schwaller
S. Hoffmann

Summary of Facts and Submissions

I. The appeal was lodged by the proprietor of the patent against the decision of the opposition division posted on 10 May 2005 revoking European patent No. 1161145.

Claim 1 of the patent as granted reads as follows:
"1. A process for the production of water dispersible granules comprising, preparing a pre-mix in the form of a free-flowing powder comprising an active material and an excipient with at least one component of the pre-mix being liquid, without forming a paste, and extruding the pre-mix to form the water dispersible granules."

II. The following documents were *inter alia* relied upon during the opposition proceedings:

D1: EP-A-0484147
D2: US-A-5714439
D5: WO 96/26828 A1
D7: GB-A-1433882
E1: Declaration of Mr D. A. Knowles dated 3 September 2004
E2: Annex 3 to E1

III. In the contested decision, the opposition division held *inter alia* that the subject-matter of claim 1 of the patent as granted was novel over D1 and D2 but lacked novelty over each of D5 and D7. The subject-matter of claim 1 of the 5th auxiliary request then on file was held to lack an inventive step.

IV. Along with the grounds of appeal dated 19 September 2005, the appellant (patent proprietor) filed nine sets of claims, respectively as 1st to 9th auxiliary requests.

Claim 1 of the 1st to 3rd requests reads:

"1. A process for the production of water dispersible granules comprising, preparing a pre-mix in the form of a free-flowing powder comprising an active material, water and an excipient ***selected from a surfactant, a filler, a disintegrant, a stabilizer, a flow aid and mixtures thereof****, without forming a paste, and extruding the pre-mix to form the water dispersible granules."* (amendments with respect to claim 1 as granted emphasized by the board)

Claim 1 of the 4th to 6th requests reads:

"1. A process for the production of water dispersible granules comprising, preparing a pre-mix in the form of a free-flowing powder comprising an active material, water and an excipient ***selected from a surfactant, a filler, a disintegrant, a stabilizer, a flow aid and mixtures thereof****, without forming a paste, and extruding the pre-mix to form the water dispersible granules* ***wherein the active material is milled either prior to the addition of the excipient or together with it****."* (amendments with respect to claim 1 as granted emphasized by the board)

Claim 1 of the 7th to 9th requests reads:

"1. A process for the production of water dispersible granules comprising, preparing a pre-mix ***in a blending***

step in a milling step *in the form of a free-flowing powder comprising an active material* ***selected from bensulfuron-methyl, chloridazon, chlorsulfuron, glyphosate, oxyfluorfen and propanil,*** *- and an excipient* ***selected from a surfactant, a filler, a disintegrant, a stabilizer, a flow aid and mixtures*** *with at least one component of the pre-mixing being* ***water adsorbed onto an active solid material****, without forming a paste, and extruding the pre-mix to form the water dispersible granules* ***wherein the active material is milled either prior to the addition of the excipient or together with it."*** (amendments with respect to claim 1 as granted emphasized by the board)

V. The replies from respondents I and II (opponents I and II) to the grounds of appeal were respectively dated 12 April 2006 and 22 June 2006.

Respondent I raised novelty and inventive step objections against all the requests on file. The novelty objections were *inter alia* based on D2, D5 and D7. It also raised objections under both Articles 123(2) and 84 EPC against the claims according to the nine auxiliary requests.

Respondent II raised novelty objections concerning all of the appellant's requests up to the 5th auxiliary request and inventive step objections concerning all requests. The objections were *inter alia* based on documents D5 or D7 taken alone.

VI. In response to the summons to oral proceedings, further comments were filed by the parties. The following fax letters were received by the board:

– from the appellant, two letters dated 3 and 20 August 2007, respectively;

– from respondent I, a letter dated 20 July 2007;

– from respondent II, a letter dated 13 August 2007.

VII. Oral Proceedings took place on 23 August 2007.

VIII. The appellant's arguments, as far as they are relevant for the present decision, can be summarised as follows:

The claimed processes were novel over both D2 and D5. It was not directly and unambiguously derivable from D2 that the "paste with a consistency from that of a moist powder to dough-like" disclosed therein was a "*free flowing powder*" in the sense of the disputed patent. Moreover, D2 prescribed the formation of a "paste" as understood by the skilled person and did thus not teach the avoidance of paste formation. D5 neither disclosed an active ingredient nor an excipient. Furthermore, there was no direct and unambiguous disclosure in D5 that the premix was in form of a "*free flowing powder*" in the sense of the patent in suit.

Concerning the interpretation of claim 1, the content of paragraphs [0016] and [0017] of the patent in suit made clear to the skilled person what constituted avoiding making a paste. In this context, not only those materials having the consistency of a dough would fall under the term "*paste*", but also those defined as mouldable and deformable in paragraph [0017]. E1 clearly showed that prior to the present invention, it was common general knowledge that the formation of a

paste was an essential requirement in the preparation by extrusion of water dispersible granules containing agrochemical formulations.

The appellant also acknowledged at the oral proceedings that in claim 1 of auxiliary requests 7 to 9, the feature "*in a blending in a milling step*" contained a typographical error and should read "*in a blending and in a milling step*".

IX. Concerning the interpretation of claim 1, the respondents contended that the definitions given respectively in paragraphs [0016] and [0017] of the contested patent corresponded to none of the commonly accepted definitions for a "*free-flowing powder*" or for a "*paste*", respectively. Therefore, a "*paste*" in the sense of the contested patent had to be interpreted as being a material having the consistency of a dough. According to the quoted paragraphs [0016] and [0017], the use of a premix in the form of a wet powder which did not have the consistency of a dough would necessarily fall under the negative feature "*without forming a paste*" and such a wet powder would therefore have to be considered as a "*free flowing powder*" in the sense of the patent in suit. Consequently, they argued that the content of *inter alia* D2, D5 and D7 destroyed the novelty of the subject-matter of claim 1 according to the main request. Respondent I furthermore argued that D2 anticipated the subject-matter of claim 1 of all the requests on file.

X. The appellant requested that the decision under appeal be set aside and that the patent be maintained as granted or, alternatively, on the basis of the sets of

claims according to one of the 1st to 9th auxiliary requests filed with the grounds of appeal dated 19 September 2005.

The respondents requested that the appeal be dismissed.

Reasons for the Decision

1. *Interpretation of claim 1 (all requests)*

1.1 The respective claims 1 of the granted patent (main request) and of all the auxiliary requests contain the features *"preparing a pre-mix in the form of a free-flowing powder comprising […] with at least one component of the pre-mix being liquid, without forming a paste."*

1.2 The appellant considered that in view of the content of paragraphs [0016] and [0017] of the patent in suit, it was clear to the skilled person "what constituted avoiding making a paste" and "that the premix may be wet, provided that it remained free-flowing and particulate".

The quoted paragraphs read as follows:

"*[0016] In the present process the material being processed remains a free flowing particulate material during the formation of the pre-mix. In particular, the material does not form a paste prior to extrusion. However, as the composition contains one or more liquid components, it may be wet or dry provided that it remains free-flowing and particulate during the process.*

The particles of the material are of such composition that they are able to move relative one another and do not, to any significant extent, agglomerate into lumps and remain as lumps having a particle size at least several times that of the bulk of the particulate material being processed during the formation of the pre-mix. If any lumps are formed during this part of the process, the process conditions for formation of the premix and/or the composition of the premix should be varied so that the lumps disintegrate into finer particles on application of shear. If any such lumps or agglomerates are formed, it is especially preferred that the agglomerate is of such a composition and physical structure that it disintegrates into finer particles on the application of manual force by rubbing between the fingers."

"*[0017] In the context of the present invention, a paste may be considered as a mass of material, for example an agglomerate, which contains sufficient liquid or is at such a temperature that the particulate material being processed forms into an agglomerate which is mouldable or deformable and which is not free-flowing. Thus, a paste does not disintegrate into finer particles on application of shear, for example by rubbing between fingers, but rather remains as an agglomerated mass and the shear acts to mould or deform the agglomerate.*"

1.3 In the board's view, paragraph [0016] conveys the idea that a particulate material (i.e. a powder) agglomerated to some extent is still to be considered as "*free flowing*", provided the agglomerated material disintegrates into finer particles on application of

shear. From paragraph [0016] it can thus be inferred that the "*free flowing powder*" referred to in the respective claims 1 according to all requests is a material which is **not** limited to those types of powdery materials that a skilled person would usually consider as free-flowing, such as dry sand.

1.4 According to paragraph [0017], a "*paste*" in the sense of the patent in suit also encompasses agglomerates, but contrary to those agglomerate-containing materials that are to be considered as "*free flowing*" according to paragraph [0016], the agglomerates described as falling under the term "*paste*" are mouldable or deformable and do not disintegrate into finer particles on application of shear.

1.4.1 The appellant illustrated the term "*paste*" in the sense of the disputed patent with the example of sand particles wetted to a small extent and sticking together to form a larger mass or an agglomerate of primary particles which, upon application of shear or pressure, may simply deform and be mouldable rather than disintegrating into the primary particles.

The board is, however, not convinced that this example is suitable for illustrating a "*paste*" as defined in paragraph [0017] of the patent in suit because, depending on the amount of water added, a mass of wet sand or of other types of powder may indeed be deformable and mouldable to a certain extent while still disintegrating into finer particles when rubbed between fingers.

1.4.2 The appellant also referred to page 1 of E2 wherein a paste, in the context of paste extrusion, was defined in more general terms as "a mixture of solid and liquid, the relative amounts being such that the resulting material could be moulded readily" and as "any composition or mixture containing just enough moisture to render it soft and plastic".

The board however observes that these definitions of a paste are more general than the one given in paragraph [0017] of the patent in suit and that they are silent about the cohesion or disintegration of the material on application of shear.

1.4.3 In view of what is stated in the paragraphs [0016] and [0017] of the description, the board thus considers that the contested patent does not permit to identify other powder/liquid mixed materials, besides those materials which are dough-like in terms of their consistency and cohesion, which would fall under the term "*paste*" as used in claim 1.

1.5 In view of the findings under points 1.3 and 1.4.3 *supra*, and of the fact that a "*paste*" is not a "*free-flowing powder*" (see the quoted paragraph [0017]), the feature "*free flowing powder*" as used in claim 1 according to all sets of claims under consideration is construed broadly in the sense that it also covers moist powdery masses which are not necessarily free-flowing to the same degree as e.g. dry sand and may comprise agglomerates, but which are not dough-like in terms of their consistency and cohesion.

2. *Novelty*

2.1 Disclosure of D2

2.1.1 D2 (column 1, lines 9 -12 and column 2, lines 17-23) relates to water dispersible granule formulations of propanil herbicide, as well as to processes for preparing these formulations including pan granulation or extrusion of a pre-wet mixture comprising finely-ground active ingredient, wetting agent, dispersing agent and carrier. The dispersible granules produced by these processes contain at least 60% propanil and have a suspensibility of at least 70%. Extrusion is presented as the preferred granulation method (column 2, lines 64-65).

2.1.2 A preferred process (column 3, lines 25-39) for preparing such propanil dispersible granules comprises the steps of:
"*a) forming a **premix** by **milling**, at a temperature of less than 80°C, a mixture of **propanil**, **dispersant** and **flow aid** to a particle size between 3 and 15 microns;*
*b) adding a **wetting agent** dissolved in 12-20% water (based on the total weight of ingredients of step (a)) to the milled mixture;*
*c) **mixing** until a homogeneous, extrudable paste is obtained;*
*d) **extruding** the paste obtained in step c) to produce extruded granules;*
e) drying the extruded granules at a temperature of less than 60°C to a moisture content of less than 2%"
(emphasis added by the board).

2.1.3 The board observes that the step of forming a premix by milling a mixture of propanil, dispersant and flow aid (see step a) of the preferred process of D2) also implies the blending of these ingredients.

2.1.4 D2 (column 2, line 67 to column 3, line 2) discloses that the "suspensibility of the granule produced is proportional to the amount of water added to the premix prior to extrusion" and that "the amount of water added may produce **a paste with a consistency from that of a moist powder to dough-like**" (emphasis added by the board). This passage thus unambiguously discloses that the paste to be extruded in the above process is not necessarily a paste having a dough-like consistency, but that it may as well have the consistency of a "moist powder" or have any other intermediate consistency between that of a "moist powder" and that of a "dough". At least in the case where it has the consistency of a "moist powder" and is thus not "dough-like", the "paste" referred to in steps c) and d) of the preferred process according to D2 is thus a *"free-flowing powder"* in the sense of the claims of the contested patent as construed by the board (see item 1.5 supra), and a *"paste"* in the sense of the claims of the contested patent is not formed.

Referring in particular to paragraphs 10. to 13. of E1, the appellant argued that prior to present invention, it was common general knowledge that the preparation by extrusion of water dispersible granules involved the formation of a paste, as expressly mentioned in D2. In paragraph 13. of E1, Mr Knowles declared that before he became aware of the present invention, he was not aware of an extrusion process for making water dispersible

granules that did not involve forming a paste to be extruded.

The board observes that Mr Knowles did not however state that the paste he was referring to necessarily was a "*paste*" in the sense of the contested patent, i.e. as specifically described in paragraph [0017]. In consequence, it cannot be concluded from E1 that a skilled person reading D2 would have considered a non dough-like "paste" having the consistency of a "moist powder" as mentioned in D2 to be unsuitable as an intermediate product in the extrusion of water dispersible granules.

2.2 Lack of novelty over D2

2.2.1 From the above analysis of the disclosure of D2 (see points 2.1.1 to 2.1.4 *supra*), it is concluded that the subject-matter of claim 1 of the 7th auxiliary request cannot be differentiated from the process disclosed in D2, as far as the latter involves an extrudable liquid/powder premix with the non dough-like consistency of a moist powder and despite the fact that such a premix is also qualified as a "paste" in D2. The subject-matter of claim 1 according to the 7th auxiliary request thus lacks novelty over the disclosure of D2.

2.2.2 The subject-matter of claim 1 of the 8th and 9th auxiliary requests is identical to that of claim 1 of the 7th auxiliary request, and therefore also lacks novelty over the disclosure of D2.

2.2.3 The respective claims 1 according to the main and the 1st to 6th auxiliary requests are all broader than

claim 1 according to the 7th auxiliary request and they all cover the process of claim 1 according to the 7th auxiliary request. Consequently, the subject-matter of the respective claims 1 of the main and of the 1st to 6th auxiliary requests also lack novelty over the disclosure of D2.

2.3 Lack of novelty over D5

For the sake of completeness, the board points out in the following that the content of D5 is also novelty-destroying with respect to the subject-matter of claim 1 according to the main request.

2.3.1 D5 relates to an apparatus and a method for producing an extrudate (page 1, line 3), said apparatus allowing the production of water-dispersible rod-shaped extrudate granules (e.g. for agricultural use) from moist finely-divided water-insoluble powders (page 6, last paragraph). The use of the preferred apparatus shown in Figure 1 is explained in detail at page 7, lines 1-10: "… the finely-divided water-insoluble powders are introduced at 54 into the chute 16 of the hopper 10. The powders can be moistened before or after introduction into the hopper 10. From there the powders gradually fall under the effect gravity [sic] towards the bottom of the hopper 10." […] "By rotation of the feeder 32 the powders are fed towards the rotating extruder tool blade 28 of the extruder tool 26. The extruder tool 26 rotates independently of the feeder 32 to force the water insoluble powders (which as a result of the pressure exerted thereon form a paste) through perforations in the screen 22 to emerge as rod-shaped extrusion granules".

2.3.2 According to D5, the moistened powder, i.e. the premix of an insoluble powder and a liquid component is fed towards the rotating extruder tool blade, and only thereafter is a paste formed as a result of the pressure exerted on the water insoluble powder. In the board's view, D5 thus discloses directly and unambiguously that before being actually extruded through the screen 22, the moist powder premix has a consistency which is not that of a paste. Considering also that the moistened powder moves towards the extruder tool under the effect of gravity, it is considered as non dough-like and "*free flowing*" in the sense of claim 1 as construed by the board in item 1.5 *supra*.

2.3.3 The appellant's argument that D5 neither discloses an active material nor an excipient cannot be accepted by the board for the following reasons.

The production of water dispersible granules for use in agriculture by extrusion in the above apparatus is explicitly foreseen in D5. Such granules necessarily contain an "*active material*", for instance a pesticide, fungicide or fertilizer. The presence of an "*excipient*" is not literally mentioned in D5. However, the powder moistening before extrusion mentioned in D5 implies that a "*liquid component*" must be present in the "*premix*" to be extruded in addition to the insoluble powder. Since moistening of the powder is necessary for permitting the extrusion of granules, the liquid added for moistening constitutes an "*excipient*" in the broadest sense of claim 1 of the main request. Neither sections [0014] and [0029] of the patent in suit, which

mention various suitable excipients in a non-exhaustive manner (see e.g. the expression "*and the like*" in section [0014]), nor section [0011], which mentions the possibility of using a liquid excipient as sole liquid component, nor the wording of the respective claims 1 justify a narrower understanding of the term "*excipient*".

2.3.4 Since D5 discloses a method with all the features of claim 1 according to the main request, the subject-matter of said claim 1 also lacks novelty over the disclosure of D5.

3. In conclusion, since none of the ten sets of claims on file meets the requirements of Article 52(1) EPC, none of the appellant's request can be granted. Under these circumstances, the further objections under Articles 123(2) and 84 EPC raised by respondent 1 against the appellant's auxiliary requests need not to be dealt with.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

C. Vodz B. Czech