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D E C I S I O N
of 26 July 2005

Case Number: T 0583/01 - 3.3.02

Application Number: 93203476.2

Publication Number: 0657161

IPC: A61K 9/16

Language of the proceedings: EN

Title of invention:

Pharmaceutical granulate containing steroids

Patentee:

Akzo Nobel N.V.

Opponent:

Grünenthal GmbH

Other parties:

Hexal AG

Durascan Medical Products A/S

Biogaran

Headword:

Pharmaceutical granulate/AKZO NOBEL N.V.

Relevant legal provisions:

EPC Art. 54, 56

Keyword:

"Admissibility of the requests filed during the oral proceedings (no): Amendments generating a new framework of discussion at such a late stage"

"Novelty of the products claimed (no): Tablets and granules lack novelty vis-à-vis the prior art"

"Novelty of the process claimed (yes): The prior art does not disclose directly and unambiguously all process features"

"Inventive step of the process claimed (no): Analogous process"

Decisions cited:

T 0248/85, G 0001/92, G 0001/94, T 0219/83, T 0674/92,
T 0270/97

Catchword:

-



Case Number: T 0583/01 - 3.3.02

D E C I S I O N
of the Technical Board of Appeal 3.3.02
of 26 July 2005

Appellant: Grünenthal GmbH
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Representative: -

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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 19 March 2001
rejecting the opposition filed against European
patent No. 0657161 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: U. Oswald
Members: M. C. Ortega-Plaza
A. Pignatelli

Summary of Facts and Submissions

- I. European patent EP-0 657 161, based on application No. 93 203 476.2, was granted on the basis of 8 claims.

Independent claim 1 as granted read as follows:

"1. A process for preparing steroid loaded granules comprising:

- a) dissolving a steroid and a lubricant in a sufficient amount of an organic solvent to form a solution;
- b) mixing the solution with a carrier comprising diluent and binder thus forming a mixture of solution and carrier; and
- c) removing the organic solvent from the mixture while blending the mixture to form steroid loaded granules."

Independent claim 5 as granted read as follows:

"5. A granule for making a pharmaceutical dosage unit, obtainable by the process of claim 1, characterized in that it contains a film coating comprising a steroid and a lubricant."

Independent claim 8 as granted read as follows:

"8. A tablet characterized by comprising the granule of any one of claims 5-7."

II. For the present decision the following documents have been taken into consideration:

- (1) US-A-4 180 560
- (3) Repertorio Farmaceutico Italiano, Mercilon, 5th edition, 1991
- (3a) English translation of document (3)
- (4) Lehrbuch der pharmazeutischen Industrie, Voigt, 6th edition, Weinheim, VCH, 1987, pp 156-185
- (5) Arzneiformlehre, List, 4th edition, Stuttgart, Wissenschaftliche Verlag Gessellschaft, 1985, pp 77-92
- (6) Pharmazeutische Technologie, 1st edition, Stuttgart, Thieme Verlag, 1991, pp 244-265
- (8) Römpp, Chemie Lexikon, 9th edition, Stuttgart, Thieme Verlag, p 1641
- (9) A.R. Gennaro, Remington's Pharmaceutical Sciences, 18th edition, 1990, pp 1641-1644, 1654, 1665
- (18) EP-A-0 037 740
- (19) Vidal, Varnoline, 69th edition, 1993, p 1511
- (23) US-A-4 914 089
- (25) Expert opinion with experimental data by Mr Mahy
- (26) Expert declaration with experimental data by Mr de Haan
- (35) Expert declaration and experimental report by Mr Bartholomäus
- (41) Experimental data filed by intervener 2 with its letter of 19 July 2005
- (46) and (47) Experimental data filed by intervener (3) with its letter of 20 July 2005
- (48) CCP 92C0207 delivered by INPI on 23 October 1992, for Mercilon (CCP means "Certificat complémentaire de protection")

(49) CCP 92C0205 delivered by INPI on 30 October 1992 for Varnoline.

III. Opposition was filed and revocation of the patent in its entirety was requested pursuant to Article 100(a) EPC on the grounds of lack of novelty and lack of inventive step.

IV. The appeal lies from the decision of the opposition division rejecting the opposition under Article 102(2) EPC.

The opposition division considered that the subject-matter claimed in independent claims 1, 5 and 8 was novel over the contents of document (1). Basically, document (1) did not unambiguously disclose, in the opposition division's view, the combination of lubricant, diluent and binder as defined in claim 1. These features were shared by the other independent claims. Furthermore, the opposition division expressed some doubts that the implantable pellets of document (1) did fall within the meaning of the term granule as used in the patent in suit.

With respect to the prior use based on document (3), the opposition division stated that the proprietor had not contested the availability of Mercilon^R before the priority date of the patent in suit. However, the claimed tablets were characterised by comprising granules containing a film coating. In the opposition division's view, there was no reason to believe that the specific structure of the granules would disappear after compression into tablets. The opposition division considered that the opponent had not provided any

evidence to show that the alleged structure did not exist in the granules and tablets according to the invention or to show that the tablets of the prior art did have the said structure.

As regards the inventive step issue, the opposition division considered document (3) as the closest prior art. The opposition division defined the problem to be solved as how to produce a tablet from the known ingredients which had improved storage ability in terms of transfer of the active drug into the surrounding medium during storage. According to the opposition division's findings, the problem was plausibly solved in the light of the comparative test results shown in the description of the patent in suit. The opposition division further considered that document (3) did not disclose either the process for preparing the tablets or their structure. Moreover, the opposition division stated that even when considering the opponent's argument that the skilled person would have produced the prior art tablets by a wet granulation process, the skilled person did not have any incentive to attribute to stearic acid a different function from lubricant. In the light of the general knowledge of the field (document (9)), the skilled person would not have added the lubricant (stearic acid) at a different stage of the process.

- V. The opponent lodged an appeal against said decision and filed grounds of appeal within the time limits provided for by Article 108 EPC.

- VI. Within the time limit provided for by Article 105 EPC intervenor 1 filed an intervention with a new ground for opposition under Article 100(b) EPC (Article 83 EPC) and additional reasons, documents and experimental data to support the request for revocation of the patent in suit.
- VII. The respondent (patentee) filed an expert opinion containing some experimental data (document (25)).
- VIII. The board expressed its preliminary opinion about the subject-matter of claim 8 as granted in a communication sent on 21 September 2004.
- IX. The respondent conditionally agreed (only in the case of remittal to the first-instance department) to the introduction of the new opposition ground with its letter of 21 October 2004. It also filed an additional expert opinion by Mr Mahy.
- X. After consideration of the newly-filed evidence, the board expressed its non-binding opinion about claim 8, in connection with claim 5 and the product-by-process features, in a communication which was sent on 28 February 2005, as an annex to the invitation to oral proceedings. In this communication from the board, the decision T 219/83, OJ EPO 1986, 211, was cited.
- XI. The respondent filed with its letter of 23 June 2005 the auxiliary requests I to IX. It also filed further arguments in favour of the dismissal of the appeal and an expert declaration with comparative experimental data (document (26)).

- XII. Intervener 1 filed with its letter of 29 June 2005, further arguments, several statutory declarations, expert declarations and an experimental report (document (35)).
- XIII. Within the time limit provided for in Article 105 EPC two new interventions were filed. Intervener 2 filed arguments against the maintenance of the patent in suit and additional experimental data, in particular document (41). Intervener 3 filed arguments against the maintenance of the patent in suit, additional documents (*inter alia* documents (48) and (49)) and additional experimental data (documents (46) and (47)).
- XIV. Oral proceedings were held before the board on 26 July 2005.
- XV. During the oral proceedings, the respondent confirmed its main request concerning the set of claims as granted and its auxiliary requests I to IX as filed with the letter of 23 June 2005.

Additionally, it filed during the oral proceedings five sets of claims as auxiliary requests Va to Ve.

Independent claim 1 of auxiliary request I merely differs from claim 1 as granted in that the following expression has been introduced at the end of the claim:

"wherein said steroid is desogestrel".

The wording of independent claims 4 and 7 respectively is identical to that of claims 5 and 8 as granted (with

the obvious difference in the reference to previous claim numbers in claim 7).

Independent claim 1 of auxiliary request II merely differs from claim 1 as granted in that the following expression has been introduced at the end of the claim:

"wherein said steroid is desogestrel and said lubricant is stearic acid".

The wording of independent claims 3 and 6 respectively is identical to that of claims 5 and 8 as granted (with the obvious difference in the reference to previous claim numbers in claim 6).

Independent claims 1 and 5 of auxiliary requests III and IV are identical to claims 1 and 5 as granted. Independent claims 8 of auxiliary requests III and IV have been reworded as a process claim.

Independent claim 1 of auxiliary request V is identical to claim 1 as granted. Independent claim 5 of auxiliary request V merely differs from claim 1 of auxiliary request V in that it contains at the end of the claim the following expression:

"wherein the granule contains a film coating comprising a steroid and a lubricant".

Independent claim 8 of auxiliary request V has been reworded as a process claim.

Independent claims 1 and 5 of auxiliary request VI are identical to claims 1 and 5 as granted.

Independent claim 1 of auxiliary request VII is identical to claim 1 as granted.

Independent claim 1 of auxiliary request VIII merely differs from claim 1 as granted in that it contains at the end of the claim the following expression:

"wherein said steroid is desogestrel and said lubricant is stearic acid".

The wording of independent claim 3 is identical to that of claim 3 as granted.

Independent claim 1 of auxiliary request IX is identical to claim 1 as granted.

XVI. The appellant did not contest the admissibility of auxiliary requests I to IV and VI to IX, however it objected to auxiliary request V, since it did not meet the conditions set out in Rule 57(a) EPC. Moreover, it contested the admissibility of all sets of claims filed during the oral proceedings as late-filed.

The appellant stated that it shared the analysis made by the board in respect of the wording of the three independent claims as granted. It also made reference to its written submissions. Furthermore, it stated that it shared the arguments put forward by the interveners in writing and orally. In summary, in the appellant's opinion, the product according to claim 8 as granted lacked novelty vis-à-vis the tablets of documents (3) and (19) and the granules lacked novelty as necessary

intermediates for the production of the known tablets by the conventional wet granulation methods.

Furthermore, the appellant contested the existence of a molecular mixture of steroid and lubricant. In the appellant's opinion, the respondent merely referred to a molecular mixture as a plausibility explanation for the alleged structural difference. Moreover, if such a molecular mixture was present in the tablets of claim 8, it was not identifiable.

The Mercilon^R and Varnoline^R tablets were made available to the public and were reproducible by the skilled person who would have used a conventional wet granulation process such as that illustrated by document (23) for steroid loaded granules and tablets. The appellant further referred to the experimental report document (35). In the appellant's opinion, it had been shown that both granulates and tablets made by the known process were encompassed by the product claims of the main request, since the stability results obtained corresponded to those stated in the patent in suit.

Furthermore, the appellant stated that the respondent's argument concerning the fact that stearic acid would be molten at the temperature of the tests (70°C) also applied to the products and the test conditions disclosed in the patent in suit.

With respect to process claims 1 to 4 of auxiliary request VII, the appellant stated that these claims were identical to claims 1 to 4 of the set of claims as granted. The subject-matter claimed in claim 1 lacked

novelty vis-à-vis document (18). Document (18) disclosed a method for preparing micro dose drugs. In particular, a method for the preparation of steroid loaded granules was disclosed. Document (18) disclosed several process options, among which was disclosed, as a first process step, building up a solution of steroid and lubricant. The component described as wax in document (18) corresponded to the lubricant according to the patent in suit. In this context it cited document (4), page 184. Moreover, the steroid would be soluble in the solvents specifically mentioned in document (18) such as acetone. In one alternative according to document (18), the solution was made in the presence of excipients. The excipients were lactose and starch, which were encompassed by the definitions for diluent and binder according to the patent in suit; then evaporation took place as in the claimed method.

The appellant argued that the passage in document (18) referring to the choice of solvents in which the active drug is not soluble did not apply in the light of the general disclosure of document (18), which taught that dissolution of the drug should be avoided only if the solvent affected its crystalline structure.

The appellant further argued that it was not stated in claim 1 that the granules would be suitable for oral administration and that it was common general knowledge (document (5)) that granulates were dosage forms which could be formed into pellets.

Additionally, in the appellant's view, the subject-matter of claim 1 of auxiliary request VII lacked an inventive step in the light of documents (23) and (18).

With respect to claim 1 of auxiliary request IX the appellant stated that the arguments put forward for claim 1 of auxiliary request VII applied *mutatis mutandis*, since the only difference relied upon a product feature which could not make an analogy process inventive.

XVII. The interveners endorsed the appellant's requests with respect to the admissibility of auxiliary request V and the auxiliary requests filed during the oral proceedings.

The interveners shared the objections and arguments put forward by the appellant with respect to the subject-matter of the three independent claims of the main request.

Interveners 1 and 2 put forward arguments against the novelty of the independent product claims of the set of claims as granted based on the Mercilon^R and Varnoline^R tablets. They referred to documents (3) and (19), to the photographs filed with the notice of intervention of intervenor 1, to the statutory declarations, expert declarations and experimental report filed with intervenor 1's letter of 29 June 2005.

Interveners 1 and 2 stated that, as established by the board, the respondent did not dispute that the Mercilon^R and Varnoline^R tablets were commercially available before the filing date of the patent in suit. The interveners further stated that the respondent did not dispute that the components of the marketed tablets corresponded to those disclosed in documents (3) and

(19) and that they corresponded to the components encompassed by the product claims.

According to findings of the interveners 1 and 2, the only definition in the patent in suit for the film coating was that on page 2, line 21: "this film coating prevents migration". The experimental report submitted by the respondent (document (26)) also related to migration measurements. However, the experimental report submitted by intervener 1 (document (35)) clearly demonstrated that there was no difference in the migration values between tablets made by the known prior art methods (i.e. using the methods of documents (23) and (18) with the components known for the Varnoline^R tablets) and the tablets made by the methods according to the patent in suit.

Interveners 1 and 2 further stated that if it was considered, in accordance with the patent in suit, that there was a correlation between the migration behaviour and the structure of the tablet, then the experimental report (document (35)) demonstrated that the tablet was not novel. The teaching of document (23) was reproduced for the components of the Varnoline^R tablets. To use ethanol instead of acetone for the second experiment was not a relevant deviation, since both solvents were commonly used in wet granulation processes due to their ease of evaporation.

Additionally, interveners 1 and 2 also referred to the statutory declarations and expert declarations filed with intervener 1's letter of 29 June 2005 in order to show that the marketed Varnoline^R tablets led to stability test results as those mentioned in the patent

in suit. In the interveners' opinion, there was nothing to wonder about since, according to the respondent's statement in its letter of 23 June 2005, the marketed Varnoline^R tablets were made according to the process of the contested patent.

Interveners 1 and 2 contested the respondent's arguments about the presence of a molecular mixture of steroid and lubricant in the products (granule and tablet). Even if there was a molecular mixture in the solution, when removing the solvent and forming the granules there would be a recrystallisation of the steroid which would then be distributed all over the granule structure and not necessarily as a "molecular mixture" with the lubricant, on the granule surface.

With respect to the novelty of claim 8 as granted, the arguments put forward by intervener 3 concerned the approach that the product claimed was characterised merely by the fact that it was a tablet and that it contained at least the components steroid, lubricant, binder and diluent. It relied *inter alia* on documents (23), (48) and (49). There was no evidence to prove that the structure of the known tablets was different from the tablets claimed.

Intervener 3 further stated that the claims of the patent as granted covered the possibility of the diluent being dissolved in the organic solvent. PVP, which was encompassed by the claims, was a soluble binder. Therefore the claims were not limited to granules covered by a coating of steroid and lubricant. Moreover, in view of the lack of amounts stated in the claims and having regard to the low percentages of

lubricant disclosed in the description, the interpretation of the claim wording by the respondent was highly questionable. It cited decision T 248/85, OJ EPO, 1986, 261, and unpublished decision T 674/92, dated 12 August 1998.

Intervener 3 also stated that if the marketed Varnoline^R tablets had some structural features which were not identifiable, they could not be used in the discussion of novelty. This also applied to the claimed tablets. According to Enlarged Board of Appeal decision G 1/92, OJ EPO, 1993, 277, only identifiable features could be novelty-bringing features.

Intervener 3 also referred to decision G 1/94 OJ EPO, 1994, 787, and to its right to defence in case it was to be decided that the patent should be maintained owing to a lack of evidence against the novelty of the product claims.

As regards claim 1 of auxiliary request VII (identical to independent claim 1 of the main request) the interveners shared the appellant's arguments.

Additionally, interveners 1 and 2 stated that the solution of the active drug in the organic solvent was a consequence of dispersing the active drug in a solvent such as acetone in which it was soluble.

Intervener 3 argued that the process of claim 1 of auxiliary request VII lacked novelty over the contents of document (1). The process claimed in claim 1 related to the preparation of steroid loaded granules. It was generally known (document (5)) that pellets may be the

result of a specific granulation process ("Aufbauende Granulierung" on page 84).

Intervener 3 also argued that document (1) disclosed all the process steps mentioned in claim 1 of auxiliary request VII. Moreover, estradiol (steroid) and polyethylene glycol (mentioned among the options for lubricant according to the patent in suit) were dissolved in a solvent. This solution was added to a core material. The only difference was the nature of the carrier (diluent and binder) which corresponded to the core material according to document (1). However, the selection of sugar starch beads from a single list of core materials could not confer novelty to the subject-matter claimed vis-à-vis the contents of document (1).

Intervener 3 stated that the purpose of the later use of the granule was irrelevant for the novelty analysis of the process according to claim 1. Moreover, claim 1 did not delimit the size of the granules. A pellet was a big granule.

Finally, the experimental report (document (26)), submitted by the respondent as covering a preferred mode of the invention, related to the preparation of a carrier granulate which was then allegedly "coated". Hence the process disclosed in document (1) was very relevant.

Intervenors 1 and 2 stated that document (23) was the closest prior art for the process according to claim 1 of auxiliary request VII since it disclosed pharmaceutical dosage unit forms containing steroid

such as desogestrel. Moreover, the excipients were filler and binder. The process disclosed in document (23) concerned a wet granulation. The difference between the claimed process and the process disclosed in document (23) lay in that the lubricant was dissolved together with the steroid. However, it had not been demonstrated that such a difference led to a technical effect.

If the skilled person was facing the problem of migration then the solution was obvious in the light of document (18), which addressed the problems of homogeneous distribution and stability in micro dose unit dosage forms.

Intervener 3 argued that the skilled person would start from document (1) since a difference in the form of the granules could not be established in the absence of their size. The only difference was the choice of the core, and this was not linked to any technical effect. Therefore, the claimed process related to an arbitrary choice within the teaching of document (1). According to document (5), pellets can be obtained by granulation. Therefore a pellet was a granule. The claim did not refer to the tablet.

Intervenors 1 and 2 further stated that it was not necessary to add an additional process step for preparing pellets which would be obtained by choosing the adequate plates for the granulation machine. With respect to claim 1 of auxiliary request IX, the intervenors stated that the arguments put forward for claim 1 of auxiliary request VII applied *mutatis*

mutandis. Intervener 3 stated that document (1) also mentioned stearic acid.

XVIII. With respect to the admissibility of auxiliary request V, the respondent stated that independent process claim 5 corresponded to independent product claim 5 reworded as a process claim. This redrafting took place in an attempt to deal with the objections raised against the granule of claim 5 as granted.

With respect to the admissibility of the auxiliary requests filed during the oral proceedings, the respondent stated that they were a direct response to the previous discussions and that, in its opinion, the amendments were easy to handle.

The respondent's arguments concerning the product claims of the main request may be summarised as follows:

The scientists of the patentee had developed a low-dose steroid drug. When developing that drug some stability problems, especially with desogestrel, were observed, namely loss of active drug under normal storage conditions. The steroid showed a tendency to migrate from tablet into packet blister. To lose some active compound by such low doses was more than significant (page 2, lines 16-17 of the patent in suit). This was the problem the patentee was facing when making its invention. The solution was to provide a process as defined in claim 1, where the steps of conventional wet granulation processes were inverted. This new process led to granules and tablets which differed structurally from the granules and tablets made by the prior art processes. The feature characterising the granules and

tablets was the molecular mixture of steroid and lubricant as a deposit over the carrier. This led to stability of the tablets measured by the migration behaviour. Whether the "film coating" was complete or incomplete was irrelevant for the discussion of novelty of the products claimed, since the prior-art wet granulation processes would not have led to such a deposit. Moreover, even if there were some changes in the carrier particles during the process for preparing the steroid loaded granules, one would still obtain a molecular mixture of steroid and lubricant on the surface of the granule. This would also reflect in a novelty-bringing feature for the compressed tablets.

It was true that the process claim encompassed several options, but all of them reflected the feature of a molecular mixture of the lubricant and steroid as deposit over the carrier due to the removal of the solvent in which both were previously dissolved.

The comparative examples which related to the transfer of drug shown in the patent in suit should serve as evidence for the difference between granules and tablets according to the patent in suit and granules and tablets made according to known dry granulation techniques. Magnesium stearate was used instead of stearic acid for the tablets made by the dry mixing technique, since stearic acid would have melted at 70°C. This would have influenced the structure. The dry granulation was a standard process for preparing granules as stated in document (19) and in the introductory part of document (18).

The comparative tests, relating to the stability of the tablets in respect of the contents of drug, shown in experimental report (document (26)) were also evidence of the difference between tablets prepared according to the process of the patent in suit and tablets made by using a conventional wet granulation process. The tablets according to the patent in suit were more stable, i.e. showed less transfer (migration).

Although the processes illustrated in the experimental report (document (26)) related to the preparation of a carrier as basic granulate, this was not an essential feature for the method according to the patent in suit, since this feature was not responsible for the stability of the tablets.

The experimental report (document (35)) submitted by intervener 1 was not relevant since the third experiment concerned a cherry-picking exercise in respect of the contents of document (18) and the first and second experiments did not correspond identically to the example of document (23), deviating either in the components or in the components and the process features (different solvent).

Similarly, the experimental reports (documents (46) and (47)) submitted by intervener 3 showed further deviations with respect to the process features (different solvent, PVP was solved, etc.). Additionally, stearic acid would have been melted under the test conditions. Furthermore, it was questionable how some of the results of the migration tests could be identical to those submitted by intervener 1 in its experimental report (document (35)).

Enlarged Board of Appeal decision G 1/92 set out three conditions for determining whether a public prior use anticipates the subject-matter of a latter claim:

- (1) the product as such has been made available to the public; and
- (2) the product can be analysed by the skilled person; and
- (3) the product can be reproduced by the skilled person.

It was not denied that Mercilon^R and Varnoline^R tablets were publicly available prior to the filing date of the patent in suit but it was denied that conditions (2) and (3) were fulfilled. There was no evidence submitted by the opposing parties to that effect.

The respondent's (patentee's) experimental data (document (26)) demonstrated that a better stability was achieved for the tablets according to the patent in suit than for the tablets prepared using a conventional wet granulation method. The different structure due to the molecular mixture was the respondent's (patentee's) plausibility explanation. The new process led to a structure which had an effect which could be detected. The opposing parties had not demonstrated a lack of novelty of the claimed products. Novelty was a question of inevitability and not a question of probability (unpublished decision T 270/97 dated 20 December 1999).

Document (23) related to a specific medical use treating the climacteric complaints, and the steroids used in example 1 were estradiol and desogestrel but one of them in high concentration. The method employed

was a wet granulation using acetone as solvent. Such method would lead to less stable tablets.

The respondent's arguments with respect to claim 1 of auxiliary request VII may be summarised as follows:

Document (18) did not disclose the process step of dissolving a steroid and a lubricant. According to the process of document (18), the active drug was coated with wax by dispersing the drug in a solution of the wax. The only passage referring to solutions was a comment on the background art concerning conventional wet granulation processes. Document (18) taught avoiding dissolution of the drug in the organic solvent. Moreover, wax and lubricant were not synonyms. When document (18) referred to a lubricant it was in order to add it latter in the process according to the conventional way. Multiple selections were required in order to arrive at the features of claim 1 of auxiliary request VII.

Document (1) disclosed a process for preparing sustained-release implant pellets with a core of 2-10 mm, whereas claim 1 of auxiliary request VII concerned a process for preparing granules suitable for oral administration.

The pellets of document (1) were suitable as subcutaneous implants which were completely different from a granule. Moreover, document (1) disclosed that the spherical core may be dissolving or non-dissolving. Therefore it was necessary to choose between these two possibilities before choosing the specific nature of the components.

Granule and pellets were different in size and geometry. The products of document (1) were big spherical pellets which could be implanted. The granule obtained by the granulation process would not fulfil these requirements.

With respect to the inventive step analysis for the subject-matter of claim 1 of auxiliary request VII, the respondent's arguments may be summarised as follows:

Document (1) was not appropriate as a starting point. Document (23) represented the closest prior art. The objective technical problem was to prepare a non-migration granule, i.e. a granule which avoids migration of the steroid. The solution was reflected by claim 1. Neither the problem nor the solution was made obvious by document (23) or any other of the documents cited. Moreover, the skilled person would not have combined documents (23) and (18) without hindsight considerations. Document (18) clearly taught that the drug should not be dissolved.

The respondent further submitted that the skilled person faced the problem of providing a process for preparing granules with improved migration behaviour, and hence it would not have considered as relevant a process for preparing implant pellets coated with drugs. Hence document (1) did not qualify as relevant prior art for the assessment of inventive step. When preparing an intermediate product for preparing a tablet, the skilled person would not have looked at a document disclosing implantable pellets. It would not have been able to transfer that teaching since spherical pellets were very difficult to prepare and

the skilled person would only prepare them if it had a specific goal, such as controlled release.

There was no granulation process mentioned in document (1) and there was confusion between the preparation of the inert core and the preparation of the coating. In the claimed method, the coating took place by way of granulation. The present process would never end up in a spherical pellet coated with a contiguous film such as those of document (1).

The experimental report (document (26)) related to the coating of a basic granulate which had nothing to do with an "aufbauende Granulierung" which was to be compared to a step-by-step growth such as a snowball.

Document (1) related to a completely different technical field.

Claim 1 of auxiliary request IX reflected an additional limitation for distinguishing the products from those prepared in document (1). Granules loaded with desogestrel had specific migration problems which were solved by the process claimed.

- XIX. The appellant (opponent) requested that the decision under appeal be set aside and that the European patent No. 0 657 161 be revoked.

The interveners joined the appellant's requests.

The respondent (patentee) requested that the appeal be dismissed or that the patent be maintained on the basis of one of the auxiliary requests I to IX as filed with

letter of 23 June 2005, or of one of the auxiliary requests Va to Ve filed during the oral proceedings.

Reasons for the decision

1. The appeal is admissible.
2. The three interventions meet the requirements of Article 105 EPC and are therefore admissible. This was not contested by the respondent.
3. *Admissibility of the late-filed auxiliary requests*
 - 3.1 The appellant and the interveners did not contest the admissibility of auxiliary requests I to IV and VI to IX filed with the respondent's letter of 23 June 2005. The board also sees no reason to contest their admissibility since they were a direct response to the comments made in the board's communication sent as an annex to the invitation to the oral proceedings.

With respect to auxiliary request V, this set of claims contains two independent process claims (claims 1 and 5) which share the same process features and merely differ in the restricted definition of the final product in claim 5. Therefore, it appears that the new process claim, claim 5, should have been worded as a dependent claim of claim 1. However, according to the well-established jurisprudence of the boards of appeal, the addition of a dependent claim leaves unimpaired the scope of the independent claim to which such dependent claim refers. It neither limits nor amends the subject-matter claimed in the corresponding independent claim.

The addition of a dependent claim is therefore no response to an objection to the patentability of the subject-matter claimed (Case Law of the Boards of Appeal of the European Patent Office, 4th edition 2001, VII.C.10, 10.1.4).

Therefore, auxiliary request V is not admissible since none of the opposition grounds justifies the introduction of a new dependent process claim (Rule 57(a) EPC).

As regards the respondent's argument that this claim was introduced in order to overcome the objection of lack of novelty vis-à-vis the product (granule) claim 5 as granted by rewording it as a process claim, it has to be said that there was already a process claim for the preparation of the granule, namely claim 1.

- 3.2 With respect to the admissibility of the sets of claims filed during the oral proceedings, the following has been considered:

The five auxiliary requests Va to Ve were *per se* late-filed since they were filed by the respondent during the oral proceedings before the board.

Although it is not denied that the respondent's intention when filing these late-filed requests related to a *bona fide* attempt to overcome the objections raised against the three independent claims of the set of claims as granted, there is no right in principle to a "last chance" to save a patent, and the admissibility of requests filed at oral proceedings is, as with all

late-filed requests, a matter for the discretion of the board.

Therefore, it has to be investigated whether or not this late filing is justified and whether the amendments introduced were clear, simple and easy to handle without generating a new framework of discussion at such a late stage.

Some of the amendments introduced in the sets of claims filed during the oral proceedings addressed objections known to the respondent for a long time in the written proceedings; other amendments concerned an unexpected shifting of the invention (by incorporating some product features from the description into the process claims) and, finally, further amendments were so unclear in their nature that they were also not easy to handle.

Correspondingly, the amendments introduced in the sets of claims filed during the oral proceedings were either not justified by newly raised objections, complex to handle or generated a new framework of discussion at a very late stage.

Therefore, the board comes to the conclusion that the sets of claims filed during the oral proceedings have to be refused as too late-filed.

4. *The subject-matter claimed*

- 4.1 Before assessing whether the requirements of novelty and inventive step have been met, it has to be investigated in the present case which technically

meaningful subject-matter is covered by three very broadly formulated independent claims (process claim 1, product claims 5 and 8) of the set of claims as granted (main request).

4.1.1 Claim 1 relates to a process for preparing steroid loaded granules. This process is characterised by the following three steps:

First step:

(a) **dissolving** a **steroid** and a **lubricant** in a sufficient amount of an **organic solvent** to form a **solution**.

This step requires both the steroid and the lubricant to be dissolved in the organic solvent.

Second step:

(b) mixing the solution with a carrier comprising diluent and binder, thus forming a mixture of solution and carrier.

This step requires the previously formed solution of steroid and lubricant in an organic solvent to be mixed with a carrier. Since the purpose of the process is to obtain granules after removal of the solvent while blending the mixture (step c), it has to be inferred that the carrier is solid. Furthermore, the carrier **comprises** a diluent and a binder. However, it is left open in which form is the carrier or how it is prepared. Two possibilities are encompassed: the carrier is a mixture of solid particles comprising diluent and binder, or the carrier is a granulate comprising granules formed by diluent and binder.

Furthermore, nothing in the wording of the claim prevents the carrier components being partly soluble in the organic solvent.

Third step:

(c) removing the organic solvent from the mixture while blending the mixture to form steroid loaded granules.

This step requires a deposit of the lubricant and steroid over the carrier.

As already mentioned, the carrier encompasses both a mixture of solid particles and a carrier granulate.

For the first option, a deposit is formed over the particles of diluent and binder and leads to a kind of "matrix" of lubricant (together with steroid, of which obviously there is less amount) between the solid particles. Another possibility (depending on the amount of lubricant employed) is that some spots of lubricant and steroid form a deposit on agglomerated solid particles of diluent and binder. From these mixtures a granulate is formed which contains, inside its structure, the lubricant and steroid.

For the second option, a deposit on the surface of the previously formed granules of diluent and carrier is formed. However, the form and magnitude of the deposit is left open.

Additionally, where some (or all) carrier components are soluble in the organic solvent there is no deposit of steroid and lubricant over an insoluble carrier, but

all the components are formed into granules of indeterminate structure.

Hence, contrary to the respondent's reasoning, there is no requirement in claim 1 for a molecular mixture of steroid and lubricant over the carrier for the granules obtained.

Moreover, since the form and nature of the carrier is not specified, **the structure of the granule loaded with the steroid is left open in the claim.**

4.1.2 Claim 5 relates to **a granule** for making a pharmaceutical dosage unit, which is characterised:

(a) as a "**product-by-process**": "obtainable by the process of claim 1", and

(b) by a structural feature: "it contains a **film coating** comprising a steroid and lubricant"

There was considerable dispute concerning the constitution of the so-called "film coating".

The respondent (patentee) stated in its written submissions that it is not necessarily a contiguous film but a deposit of lubricant and steroid or it may even be a matrix. Moreover, the only method for detection should be XPS (X-ray photoelectron spectroscopy) for **Si-free** granules. This method should allow the **presence of stearic acid** (i.e. only the lubricant) to be detected on the surface of the granules.

It is also evident from the written submissions that the SEM (Scanning electron microscopy) is not suitable for establishing whether or not a film is formed.

Therefore, feature (b) cannot be accepted as characterising the granule since its **true** constitution is left open and, as the facts on file stand, cannot be determined.

With respect to the "product-by-process" definition it can be said that, according to the analysis of the process of claim 1 made above, the nature of the granule structure is left open and encompasses several possibilities.

- 4.1.3 Claim 8 relates to a tablet characterised by comprising the granule of claim 5.

On the one hand, it becomes evident from the analysis of claim 5 previously made that the true constitution of the so-called film coating is left open and, on the other, the patentee does not dispute that (if so-called film coating is maintained during the compression of the granules into tablets) there is no method available for determining its presence in the final tablets, since both the marketed tablets (also shown by documents (3) and (19)) and the tablets exemplified in the description of the patent in suit contain silicon dioxide which interferes with the XPS analysis.

Hence, the tablet of claim 8 cannot be characterised by the presence, not identifiable in the final tablet, of a "film coating" in the granules which are subject to compression. Therefore, the tablet according to claim 8

is characterised merely by the presence of its essential constituents, i.e. the components listed in claim 1 (steroid, lubricant, binder, diluent).

- 4.2 The respondent did not dispute that the process claim encompassed several options, but asserted that all of them reflected the feature of a molecular mixture of the lubricant and steroid as a deposit over the carrier due to the removal of the solvent in which both were previously dissolved.

However, as shown by the analysis of the claims made in point 4.1 above, it is not a compulsory feature of the claimed granules that a molecular mixture is present on their surface. Moreover, even if this were the case there are no technical means available by which the presence and constitution of such a **molecular mixture** could be determined or identified by the skilled person either in the granules or in the final tablets.

- 4.3 The respondent further argued that the transfer or migration behaviour of the steroid drug was different for granules or tablets made according to the process of the patent in suit and for the granules and tablets made according to the processes known from the prior art.

It cannot be denied that functional features are in principle allowable for defining a product. However, the following has to be considered in the present case. Since the functional feature relating to the migration behaviour appears expressly only in a dependent claim of claim 5, namely claim 6, it has to be investigated whether, as alleged by the respondent, a functional

feature relating to the migration behaviour is the direct result of the process for preparing the granules referred to in claim 5 as a product-by-process feature. Additionally, it has to be assessed whether such feature qualifies as a novelty-bringing feature for the claimed products (granules and tablets).

The respondent cited for this purpose the experimental report (document (26)) which relates to stability tests on tablets prepared from granules obtained by a process in which the carrier used was a basic granulate. The respondent acknowledged that the use of a basic granulate as carrier was not reflected in the claims, but it denied that this would have had any effect on the stability results of the tested tablets. The board cannot follow this, since, having regard to the fact that the submitted tests should demonstrate the existence of a certain new functionality in the products obtained as a direct result of the alleged deposit of lubricant and steroid over the surface of the carrier when evaporating the solvent, the form and nature of the carrier when performing the process is also essential. Hence, it cannot be concluded from the submitted tests (document (26)) whether or not such a "new functionality" is present in tablets prepared from granules obtained by the process using as the carrier a powder mixture of diluent and binder (i.e. not previously granulated). Therefore, since claim 1 does not require the carrier to be a basic granulate, the submitted tests shown in document (26) cannot serve to demonstrate whether all the claimed products (granules and tablets) exhibit a certain new functionality as a result of the product-by-process features appearing in claim 5.

Moreover, taking into account the fact that the wet granulation processes of the prior art (documents (9) and (23)) do not use a basic granulate carrier, the tests submitted with document (26) cannot be used either for comparison purposes to qualify the alleged function as a novelty-bringing feature of the claimed tablets over the tablets prepared by prior art processes.

5. *Novelty of the products claimed*

5.1 *The tablets*

5.1.1 The respondent has not disputed that documents (3) and (19) form part of the state of the art within the meaning of Article 54(2) EPC. Nor has it disputed that the Mercilon^R and Varnoline^R tablets, described in documents (3) and (19) respectively, were available to the public before the filing date of the patent in suit. This is also confirmed by documents (48) and (49) for Mercilon^R and Varnoline^R tablets respectively.

Finally, it has not been disputed by the respondent that the prior art tablets comprise the same components (Mercilon^R: desogestrel (steroid), ethinylestradiol (steroid), stearic acid (lubricant), magnesium stearate (lubricant), lactose (diluent), polyvinylpyrrolidone (binder); Varnoline^R: desogestrel (steroid), ethinylestradiol (steroid), stearic acid (lubricant), lactose (diluent), polyvidone (binder)) as the tablets claimed in claim 8 of the main request.

Hence, the tablets claimed in claim 8 of the main request lack novelty over the known tablets.

5.1.2 As already mentioned, the respondent did not dispute that the two pharmacopeia (documents (3) and (19)) disclose the exact composition of the sold Mercilon^R and Varnoline^R tablets. However, it disputed that the skilled person would have been able, from the teaching of documents (3) and (19), to prepare tablets such as those sold, since the process for their preparation was not disclosed in the said documents.

Despite the lack of information in documents (3) and (19) about the method for preparing the tablets, that information belongs to the common general knowledge of the skilled person in the field of pharmaceutical technology. The generally known method of preparing tablets is by compressing granules, which are previously prepared by granulation. In principle, a dry or a wet granulation technique may be employed, although the wet granulation technique is the one of choice due to the small amounts of active drug (steroid) present in the known tablets.

Furthermore, the respondent has not denied that tablets comprising the ingredients disclosed in documents (3) and (19) are feasible by the generally known methods, what the respondent denies is that tablets obtained by the known processes are identical in their structure to the tablets sold. This reasoning, however, is irrelevant for the analysis of the novelty of the tablets claimed vis-à-vis the contents of documents (3) and (19) for the following reasons: documents (3) and (19) disclose tablets, which are feasible by the

methods generally known to the skilled person, comprising the ingredients required by claim 8 of the main request.

Therefore, documents (3) and (19) make available to the public tablets characterised by the presence of the listed ingredients.

Furthermore, although documents (3) and (19) do not disclose the specific structure of the tablets, this cannot impair the validity of the previously made novelty analysis since the actual structure of the tablet remains undefined in claim 8 for the reasons stated in point 4.1 above.

5.1.3 Additionally, the burden of proving the facts it alleges lies with the party invoking these facts.

It has not been proven by the respondent that the tablets sold differ in their structure from the tablets containing the same ingredients but made by known processes. Indeed, the respondent has even acknowledged, by stating that the alleged structural difference cannot be established in the sold tablets by analytical means, that the said structural feature (if present) is not identifiable in the tablets. Hence, the only valid conclusion is that such a non-identifiable feature cannot be used for the assessment of novelty.

With respect to a possible difference in the transfer or migration behaviour, a conclusion in favour of the respondent cannot be reached. On the one hand, the submitted tests (document (26)) do not reflect identically the prior art processes known from

documents (9) and (23) (cf. last paragraph of point 4.3 above) and, on the other, the "comparative example" present in the patent in suit concerning a dry granulation technique (example II) does not use the same ingredients as the tablets disclosed in documents (3) and (19).

5.1.4 The analysis made in points 5.1.1 to 5.1.3 above also applies *mutatis mutandis* to the subject-matter of claim 7 of auxiliary request I and claim 6 of auxiliary request II, since the only difference vis-à-vis claim 8 as granted is that the tablets comprise desogestrel or desogestrel and stearic acid respectively. These ingredients are also present in the tablets disclosed in documents (3) and (19).

5.2 The granules

5.2.1 Claim 5 of auxiliary requests III, IV and VI are identical to claim 5 as granted (and claim 1 of these requests is identical to claim 1 as granted) hence the analysis made in point 4.1.2 above fully applies to them.

5.2.2 It becomes evident from the reasoning made in the second paragraph of point 5.1.2 above that the prior art documents (3) and (19) make available to the public tablets with the same components as the tablets claimed in the patent in suit and that the tablets are inevitably made from granules by compressing. This has not been disputed by the parties.

Therefore, granules for making the tablets according to documents (3) and (19) have also been made available to the public.

The board shares the respondent's opinion that in the prior art processes conventionally used for preparing granules (cf. *inter alia* the general book (9), page 1641, lines 9-10, under the heading "Wet-granulation method") the lubricant is added just before forming the tablets by compressing, but not in an earlier process step. This is also true of dry granulation (cf. document (9), page 89, paragraph starting on line 3). Notwithstanding this difference in the process, the prior art granules have incorporated the lubricant before compressing.

Therefore, documents (3) and (19) make available to the public granules having the same ingredients as the granules claimed in claim 5. Consequently, the subject-matter of claim 5 lacks novelty (Article 54(1) and (2) EPC).

- 5.2.3 The respondent argued that the granules claimed in the patent in suit differ from the prior art granules since they have on their surface a deposit formed by a molecular mixture of lubricant and steroid. However, such a feature is not reflected in the claim (cf. the analysis made in point 4.1.2 above).

The respondent filed some experimental data relating to the XPS detection method (document (25)) for Si-free granules. However, the specific experimental conditions employed for preparing the granules were not stated and no comparison was made with granules made by the

commonly known granulation methods, according to which stearic acid was added prior to compression. Therefore, the results are not useful for comparative purposes.

Additionally, the results concern the detection of some lubricant on the surface of the granules but nothing else can be expected from the granules prepared according to the known processes, in which the lubricant is added after granulation and before compression.

5.2.4 Therefore, in view of the above analysis auxiliary request III fails for lack of novelty of the subject-matter of claim 5.

5.2.5 The analysis made in points 5.2.1 to 5.2.3 above also applies *mutatis mutandis* to the subject-matter of claim 3 of auxiliary request VIII, since the only difference with claim 5 as granted is that the granules comprise desogestrel and stearic acid. These ingredients are also present in the granules for preparing the tablets according to documents (3) and (19).

6. *Novelty of the process claim 1*

6.1 Claim 1 of auxiliary request VII is identical to claim 1 of the set of claims as granted. Therefore, the analysis made in point 4.1.1 applies to it.

6.2 Document (18) discloses solid microdose drug preparations in which the drug is present as wax-coated particles and methods for their preparation (page 2, lines 12-14, page 3, last paragraph, page 4).

Among the examples of drugs suitable for use according to document (18) mention is made of ethynylestradiol which is a steroid (page 3, line 5).

Document (18) also mentions that "Examples of suitable waxes are fats and oils prepared by vegetable oils..." (page 3, lines 7 and 8). Among the options listed for waxes are fatty acids such as stearic acid.

Document (18) discloses several process options: "Coating of a powder of a microdose drug with wax directly or together with a definite amount of excipient is performed by uniformly **dispersing the powder** into molten wax or by uniformly **dispersing the powder** into wax dissolved in or mixed with appropriate solvent and then removing the solvent, e.g. by vacuum-drying, spray-drying, etc. In this **dispersing procedure**, the microdose drug powder of particle size..." (page 3, lines 26-28, page 4, lines 1-5) (emphasis added). It is further disclosed that "the drug coated with the wax is formed into powder or granules" (page 4, lines 8-9).

"As diluting solvent, one or more ordinary organic solvents ... which do not affect the microdose drug are suitably used, but **solvents which do not dissolve the drug are preferred.**" (page 4, lines 14-19).

Document (18) exemplifies a general preparation method (examples 1-11) in which "A fixed amount of wax dissolved in 10 ml of a solvent and after **suspending** 1.5 g of microdose drug in the solution, the **suspension** was stirred by hand. Then, after evaporating the

solvent by means of a rotatory evaporator..." (emphasis added).

Apart from the fact that the presence of the excipients when the evaporation of the solvent takes place is only optional for the process according to document (18), the drug, which may be a steroid, is dispersed in the organic solvent. Indeed, the solvent is chosen so as not to dissolve the drug in order to coat the drug with the wax when evaporating the solvent.

Therefore, the process disclosed in document (18) does not anticipate the process claimed in claim 1.

- 6.2.1 The appellant argued that the passage in document (18) referring to the choice of a solvent in which the active drug is not soluble did not apply in the light of the general disclosure of the said document.

The board disagrees, since the alleged general teaching merely refers to an analysis of the background art. In particular, the passage refers to a comparison between the known wet granulation methods and dry granulation methods. In contrast to the conventional wet granulation methods where the drug is dissolved in a solvent, the process disclosed in document (18) relates to a coating of the drug with a wax, prior to granulation. To achieve that end, the drug is suspended in the solvent in which the wax is dissolved and then the solvent is evaporated.

6.2.2 Document (1) discloses subcutaneously implantable spherical pellets which comprise as active drug a steroid (estradiol) (column 3, lines 38-39, 64-65) and a process for their preparation.

Document (1) discloses: "Broadly stated, the process involves dissolving the drug and carrier in a suitable solvent, contacting the inert spheres with the resulting solution to thoroughly wet the spheres, then evaporating the solvent from the solution so that the carrier and drug combination remains uniformly coated on the inert spheres." (column 7, lines 8-13).

"Representative carriers which may be used for the purpose of this invention include cholesterol, solid **polyethylene glycols** (PEG), high molecular weight fatty acids and alcohols such as **stearic acid** or cetyl alcohol, ... " (column 6, lines 40-44) (emphasis added).

Polyethylene glycol is particularly preferred (column 3, lines 49-50).

With respect to the core materials document (18) discloses: "The core materials may be non-dissolving or dissolving materials ... Representative dissolving material include polyethylene glycols such as POLYOX^R (Union Carbide) or Klucel^R (Hercules) and **sugar starch beads**." (column 4, lines 46-54) (emphasis added).

Therefore, document (1) teaches using preferably polyethylene glycol as carrier. Polyethylene glycol falls within the definition of lubricant given in the patent in suit (page 3, line 38).

However, the process illustrated in document (1) does not use sugar starch beads but cellulose acetate spheres (example I) and sugar beads are not disclosed as preferred in the description of document (1).

Consequently, even if accepting the appellant's and intervener's argument that granules may be converted into pellets, a granule is not an implantable pellet with an inert spherical core of about 2 mm to about 10 mm like those prepared by the process of document (1) (column 3, lines 43-44). Moreover, said document does not disclose directly and unambiguously the process as defined in claim 1, since the skilled person would need to make several choices before selecting sugar starch beads as the core material to be used. According to the teaching of document (1), the skilled person has first to choose to use as core material a "dissolving material" and then select sugar starch beads from a list of several options.

Moreover, there is no indication in the description of document (1) that a core material should be selected corresponding in its role to the "carrier" according to the wording of claim 1 of the patent in suit, namely that the carrier has to have a dual constitution (diluent and binder).

6.2.3 Therefore, in view of the analysis made in points 6.2.1 and 6.2.2 above, the subject-matter claimed in claim 1 of auxiliary request VII meets the novelty requirements (Article 54 EPC).

6.2.4 This analysis also applies to the subject-matter of claim 1 of auxiliary request IX which has incorporated the additional novelty-bringing feature that desogestrel has to be used as steroid.

6.3 *Inventive step of process claim 1*

6.3.1 Document (23) represents the closest prior art. This document discloses a wet granulation process for the preparation of steroid loaded granules (cf. example 1).

In particular, example 1 discloses the following:
"**mixing** of a **solution** of desogestrel and tocopherol in **acetone** with a mixture of oestradiol, **polyvinylpyrrolidone** and **lactose**, mixing the **granular** material with starch after drying, colloidal silicon dioxide and **magnesium stearate**,...". (emphasis added). This process is followed "by moulding tablets from the compositions thus formed."

It is evident that the process specifically disclosed in document (23) corresponds to a conventional wet granulation process in which the lubricant (magnesium stearate) is added to the granulate before being compressed into tablets. Polyvinylpyrrolidone and lactose are the binder and the diluent (carrier). Desogestrel is a steroid and tocopherol is an anti-oxidant. Therefore, a steroid, desogestrel (together with the anti-oxidant), is dissolved in acetone (organic solvent). This solution is mixed with a binder and a diluent and granulation takes place, which implicitly requires the evaporation of the solvent and the formation of granules. To the granules thus formed

are added a lubricant (magnesium stearate) and a flow enhancer (colloidal silicon dioxide).

In the light of this prior art the problem to be solved lies in the provision of an alternative process for preparing steroid loaded granules containing the same components.

The solution relates to the process feature that the lubricant is added in the first process step, namely it is dissolved together with the steroid in the organic solvent.

The board is satisfied that the problem has been plausibly solved in the light of the example shown in the description.

- 6.3.2 The respondent defined the problem to be solved as the preparation of a non migration steroid loaded granule. The respondent also stated that the solution to this specific problem was reflected in the process features in claim 1.

However, the board has extensively investigated the wording of the claim (cf. point 4.1.1 above) and the possible relevance of the process features, as defined in the claim, in the structural or functional features of the products (granules) directly obtained by the process (cf. point 4.1.2.) and has come to the conclusion, in the light of the evidence available, that the granules obtained by the process defined in claim 1 do not possess any functional or structural characteristic going beyond those of the granules

obtained by a conventional wet granulation process such as that exemplified in document (23).

For the sake of completeness it has to be said that the addition of other components such as the anti-oxidant agent, the flow enhancer or starch is contemplated by the patent in suit (cf. *inter alia* example I) and is also encompassed by process claim 1. This also applies to the presence of a second steroid.

Therefore the problem to be solved had to be defined in a less ambitious way.

6.3.3 Therefore, it has to be investigated whether the claimed solution is obvious in the light of the cited prior art.

It is a fact that in the process disclosed in document (23) the lubricant is added to already formed granules. After addition of the lubricant, the granules are in a solid form loaded with steroid and containing a lubricant on their surface.

Therefore, the skilled person working in the field of pharmaceutical technology will be aware of all the documents relating to the preparation of steroid loaded solid forms, such as document (1). In particular, he would be able to recognise the relevance of document (1) in so far as the generic process disclosed in document (1) (cf. column 7, lines 8-13, passage quoted in point 6.2.2. above) involves analogous process steps such as the process disclosed in document (23), namely solution of the steroid in an organic solvent and then evaporation of the solvent in the presence of an inert

solid carrier (which is in document (1) the inert spherical core or inert spheres). The skilled person would also immediately recognise that the substance denominated "carrier" in document (1) and added with the steroid to the suitable solvent in order to form a solution falls within the definition of lubricant (polyethylene glycol, stearic acid) (cf. column 6, lines 42-43).

Therefore, document (1) teaches that substances such as polyethylene glycol or stearic acid (both lubricants) can be dissolved in the suitable (organic) solvent together with the steroid when preparing steroid loaded solid forms.

Consequently, the subject-matter of claim 1 lacks an inventive step since the claimed process is an analogous process to that disclosed in document (1) which is merely applied to the steroid loaded solid form of document (23).

6.3.4 Contrary to the respondent's opinion, document (1) cannot be disregarded by the skilled person when looking for an alternative to the process disclosed in document (23).

Indeed, in view of the fact that claim 1 does not specify the size, suitability or purpose of the granules to be prepared, there is nothing to prevent the skilled person from applying the teaching of document (1) to the preparation of the steroid loaded granules of document (23).

Moreover, a further step concerning compressing into tablets is not part of process claim 1.

The respondent also argued that the process disclosed in document (1) did not relate to a granulation process. However, since claim 1 encompasses the option of using a pre-granulated carrier (analogous to the inert core of document (1)), which is then loaded with the steroid and lubricant by evaporating the solvent, this argument of the respondent is not relevant.

6.3.5 In conclusion, auxiliary request VII fails because process claim 1 lacks an inventive step (Article 56 EPC).

6.3.6 The analysis in points 6.3.1 to 6.3.5 above also applies *mutatis mutandis* to the subject-matter of claim 1 of auxiliary request IX, since the only difference vis-à-vis claim 1 as granted is that the granules comprise desogestrel and stearic acid respectively.

The granules prepared by the process disclosed in document (23) also comprise desogestrel, and stearic acid is an option for the coating "carrier" (lubricant) specifically disclosed in document (1). Moreover, the existence of an effect linked to the use of stearic acid when compared to the use of other possible lubricants, such as magnesium stearate, has not been demonstrated.

Therefore, the product features introduced cannot render inventive the process which has been found to be obvious. The process of claim 1 according to auxiliary request IX is an analogy process.

6.3.7 Accordingly, auxiliary request IX fails because claim 1 lacks an inventive step of claim 1 (Article 56 EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

E. Görgmaier

U. Oswald